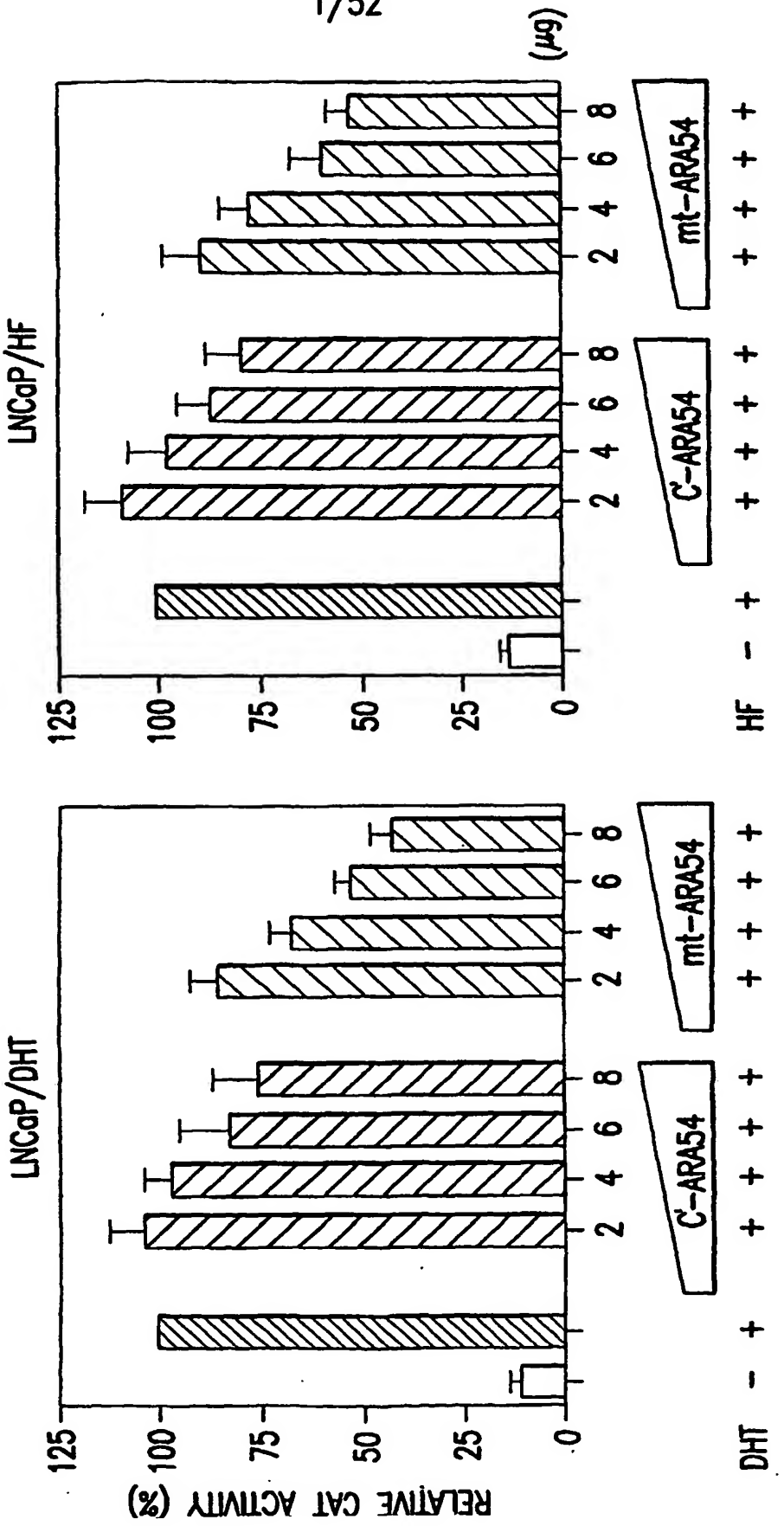

LNCaP/DHT
LNCaP/HF
RELATIVE CAT ACTIVITY (%)
125
100
75
50
25
0
DHT
HF
(μg)
C'-ARA54
mt-ARA54
2 4 6 8

FIG.1A

FIG.1B

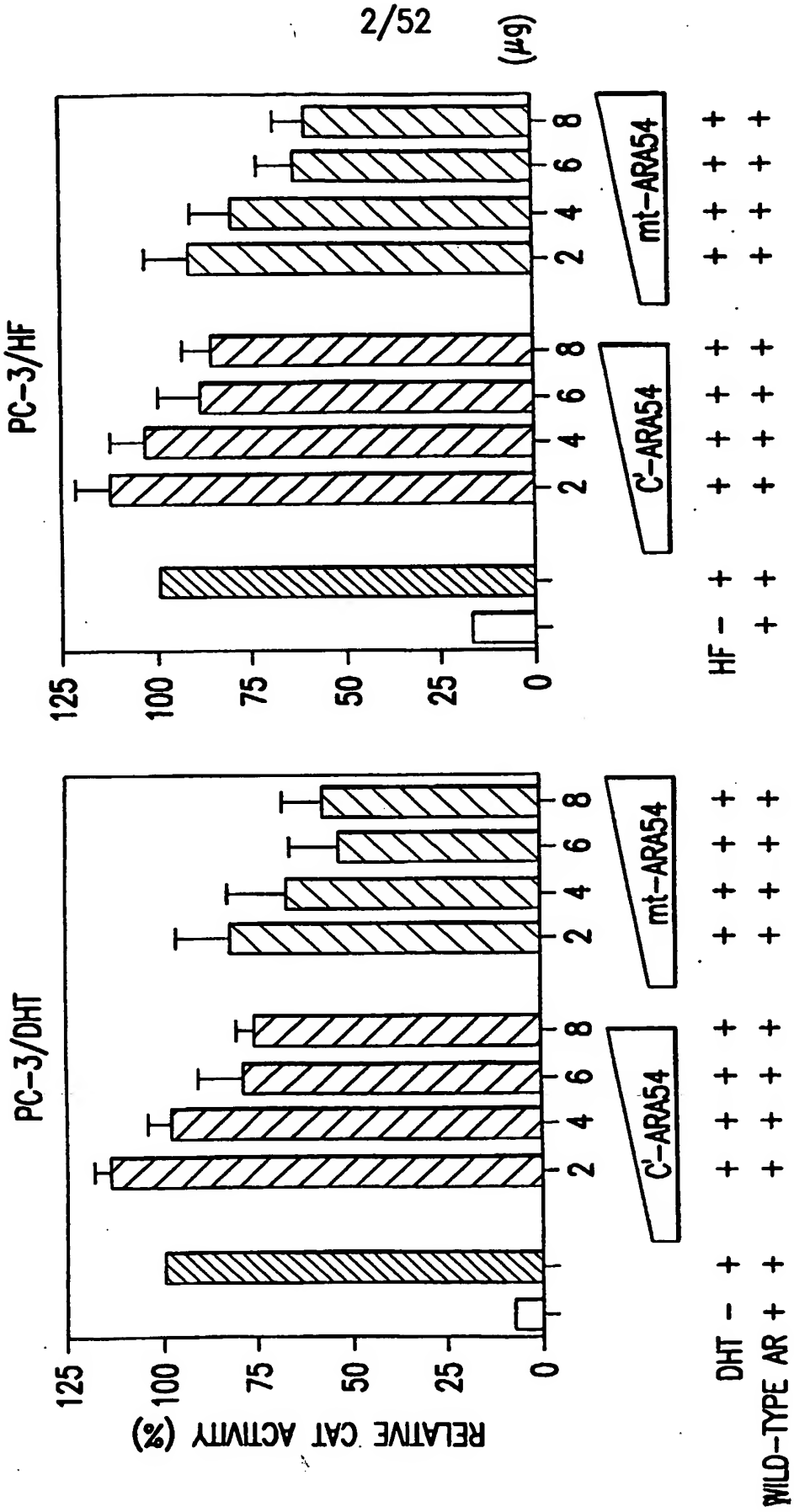

PC-3/DHT
PC-3/HF
RELATIVE CAT ACTIVITY (%)
0
25
50
75
100
125
C'-ARA54
mt-ARA54
2 4 6 8 (μg)
WILD-TYPE AR + + + + + + + + + + + +
DHT - + + + + + + + + + + +
HF - + + + + + + + + + + +

FIG.1C

FIG.1D

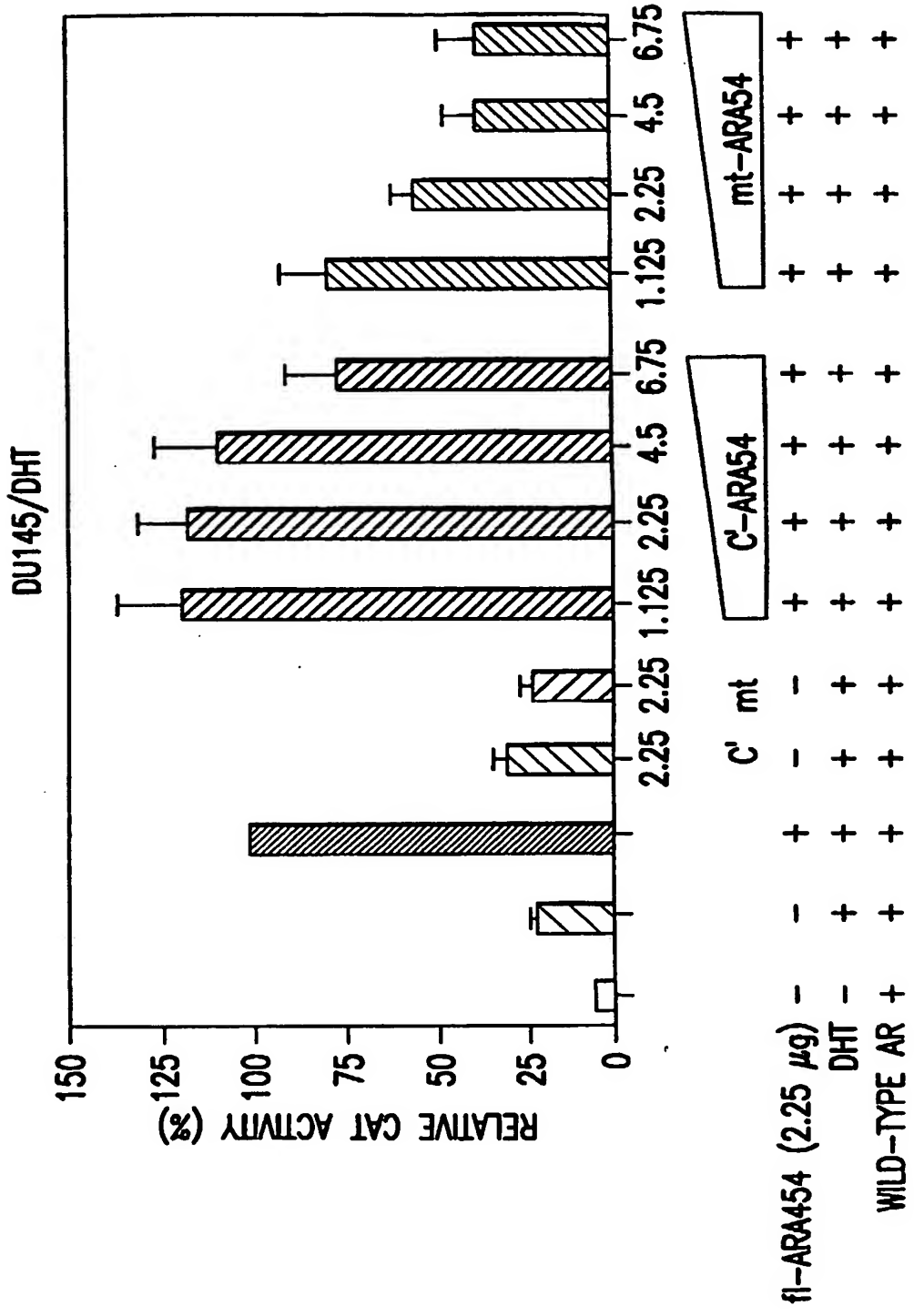

DU145/DHT
RELATIVE CAT ACTIVITY (%)
150
125
100
75
50
25
0
fl-ARA454 (2.25 μg) - - + - - + + + + + + +
DHT - + + + + + + + + + + +
WILD-TYPE AR + + + + + + + + + + + +
C' mt - - + + + + + + + + + +
2.25 2.25 1.125 2.25 4.5 6.75 1.125 2.25 4.5 6.75
C'-ARA54
mt-ARA54

FIG.1E

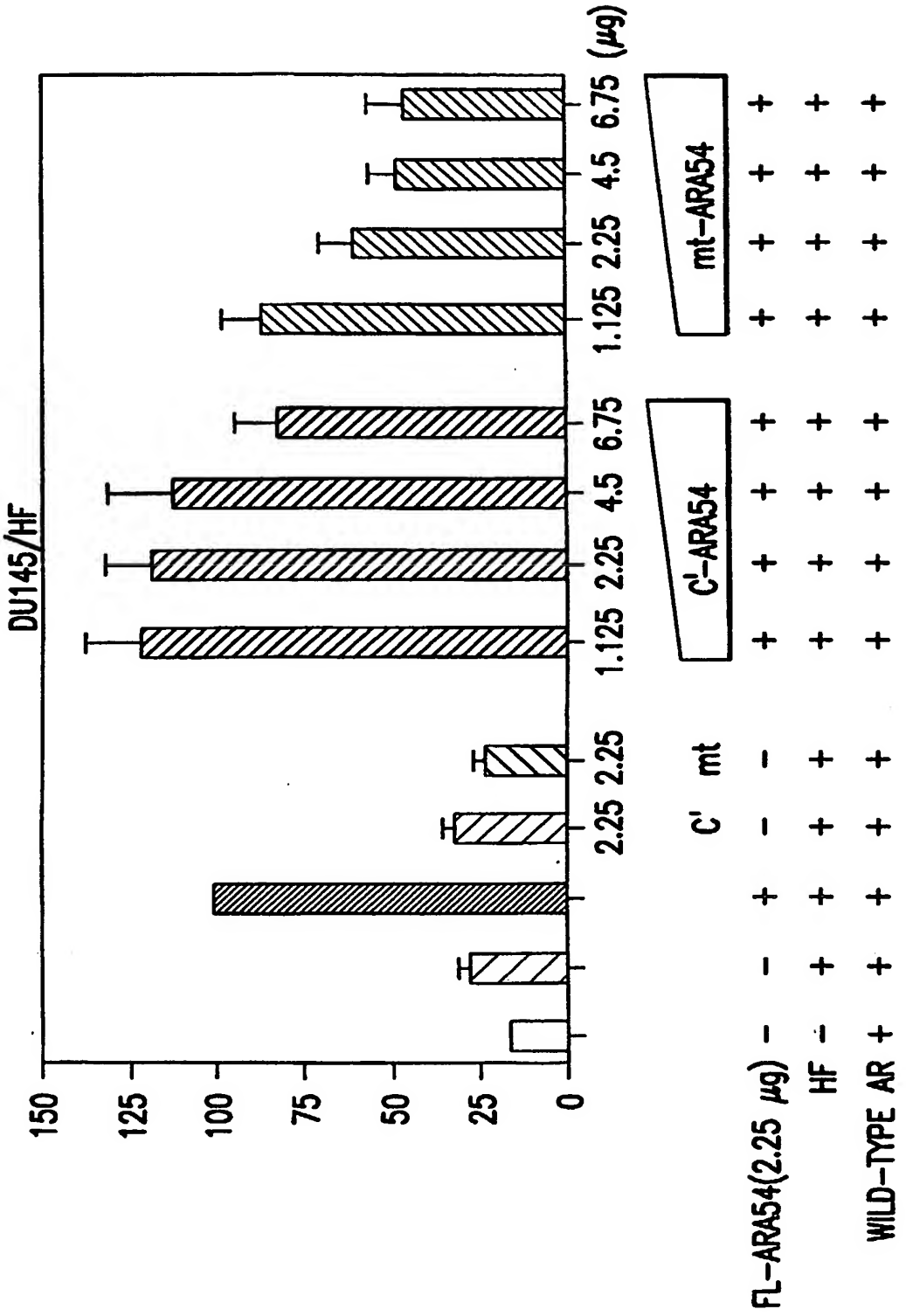

DU145/HF
150
125
100
75
50
25
0
FL-ARA54(2.25 μg) - - + - - 2.25 2.25 1.125 2.25 4.5 6.75 1.125 2.25 4.5 6.75 (μg)
HF - + + + + + + + + + + + + + + +
WILD-TYPE AR + + + + + + + + + + + + + + +
C' mt
C'-ARA54
mt-ARA54

FIG.1F

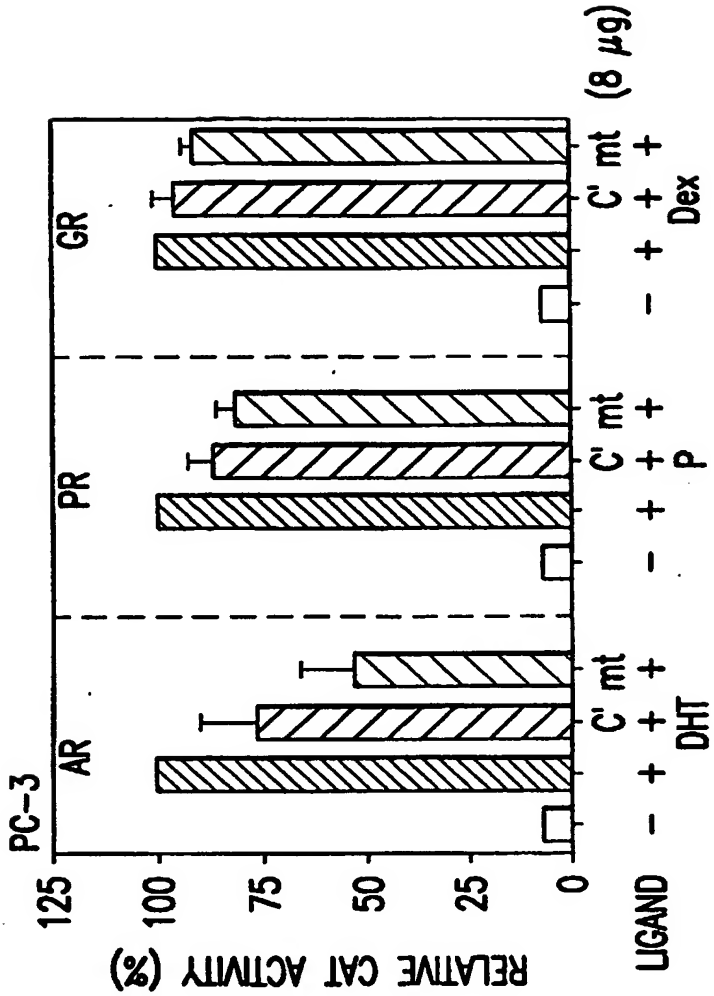

PC-3
AR
PR
GR
RELATIVE CAT ACTIVITY (%)
125
100
75
50
25
0
LIGAND
-
+
+
DHT
C' mt
+
+
+
P
-
+
+
C' mt
+
+
+
Dex
-
+
+
C' mt
+
+
+
(8 μg)

FIG.2A

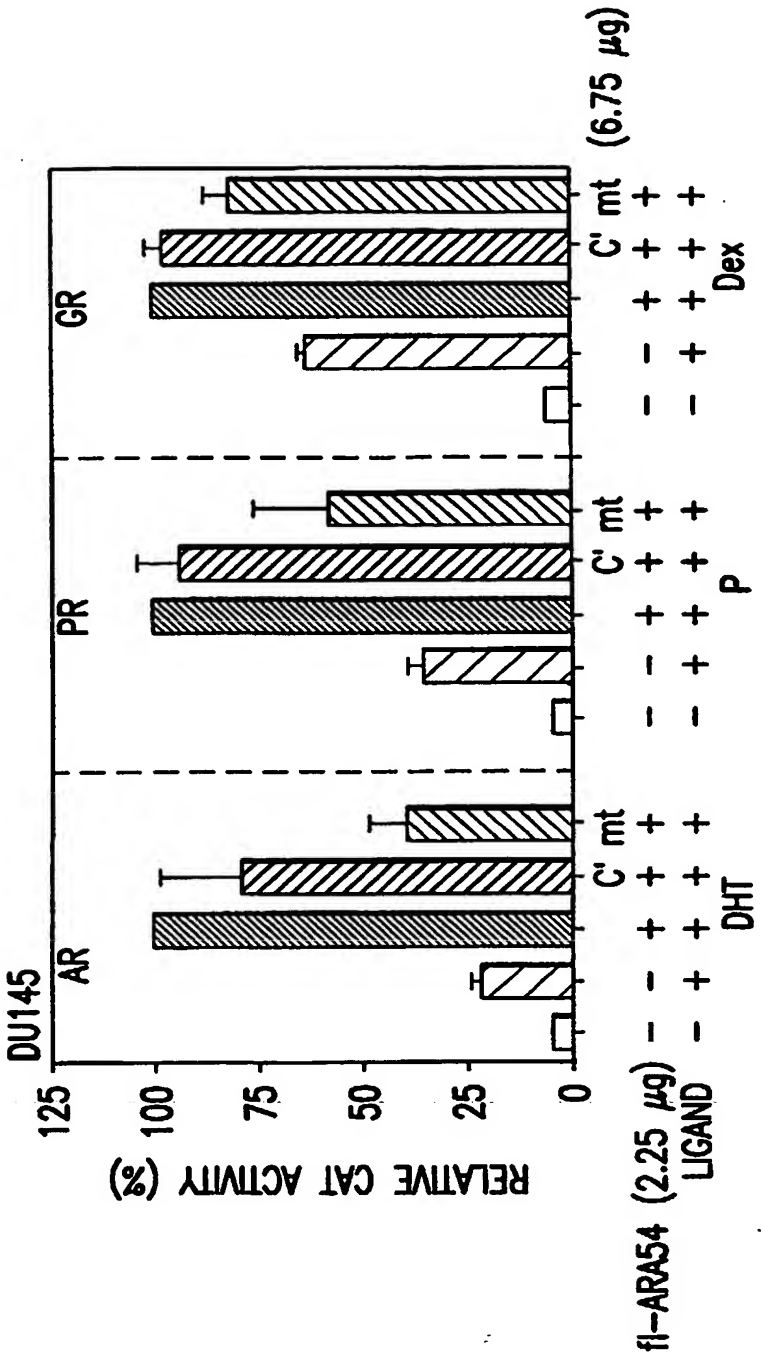

DU145
AR
GR
PR
AR
RELATIVE CAT ACTIVITY (%)
125
100
75
50
25
0
fl-ARA54 (2.25 μg)
LIGAND
C' mt (6.75 μg)
Dex
P
DHT

FIG.2B

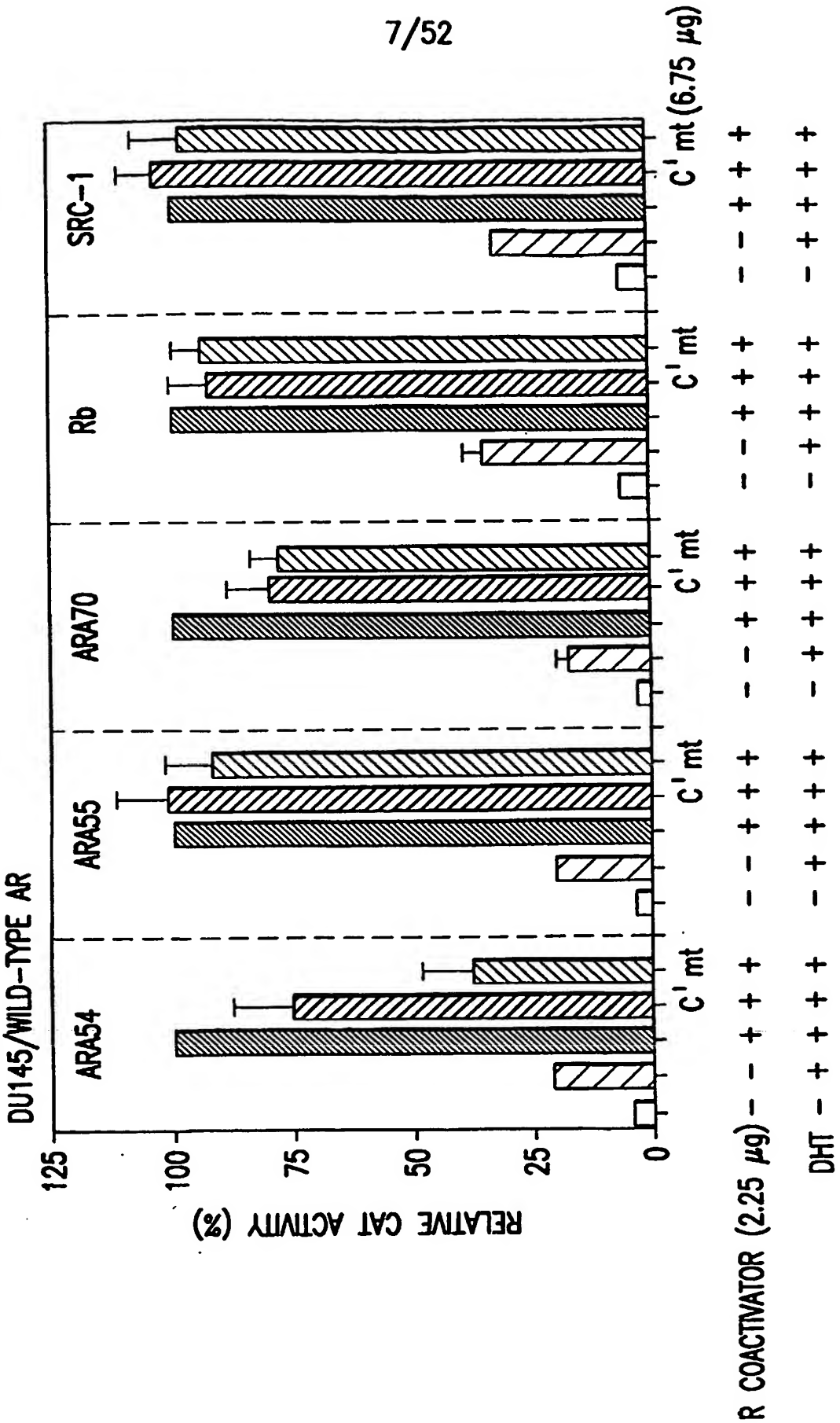

DU145/WILD-TYPE AR
ARA54
ARA55
ARA70
Rb
SRC-1
C' mt
C' mt (6.75 μg)
RELATIVE CAT ACTIVITY (%)
125
100
75
50
25
0
R COACTIVATOR (2.25 μg)
DHT

FIG.3A

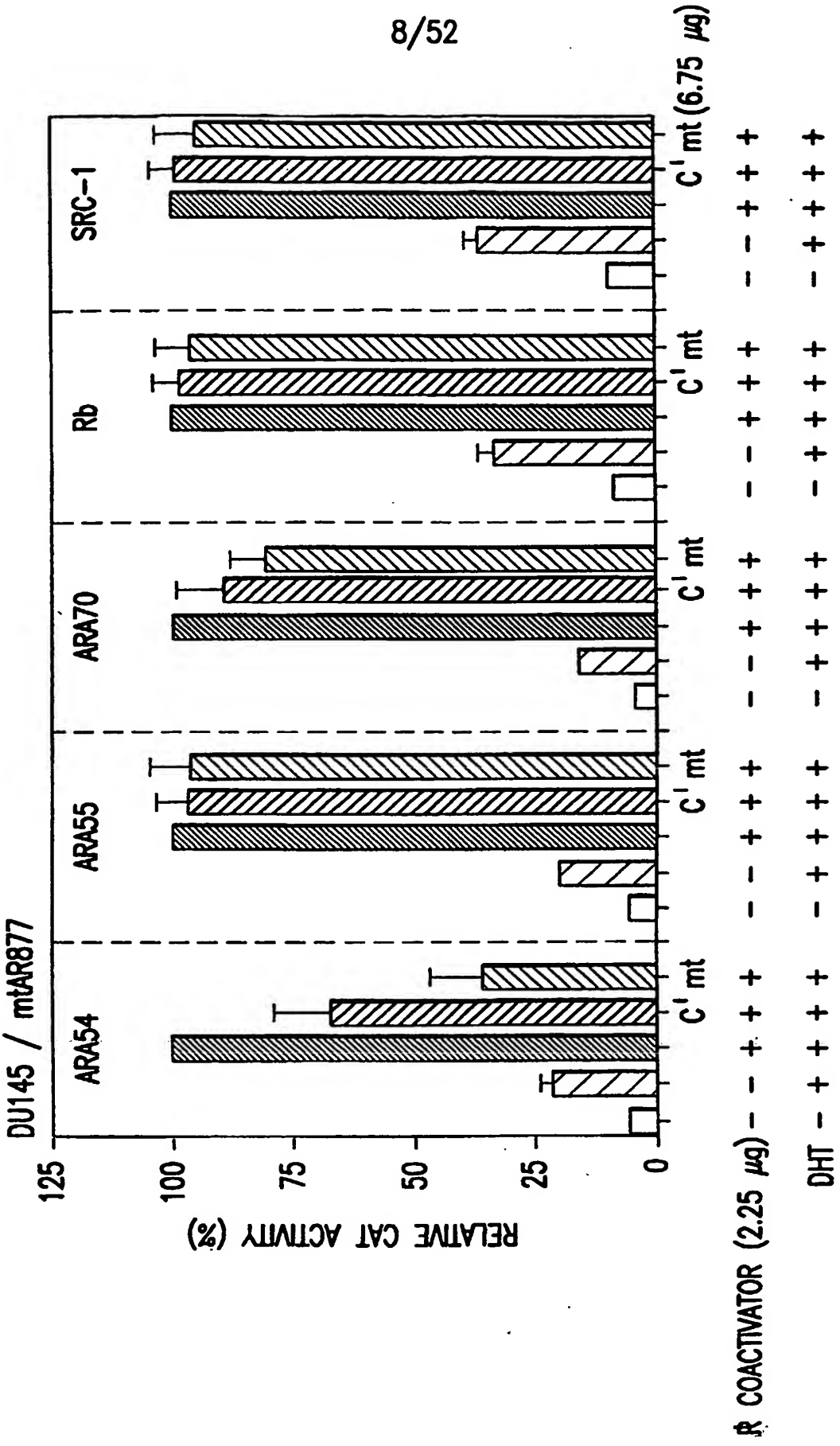

DU145 / mtAR877
ARA54
ARA55
ARA70
Rb
SRC-1
C' mt
C' mt (6.75 μg)
RELATIVE CAT ACTIVITY (%)
0
25
50
75
100
125
R COACTIVATOR (2.25 μg)
DHT

FIG.3B

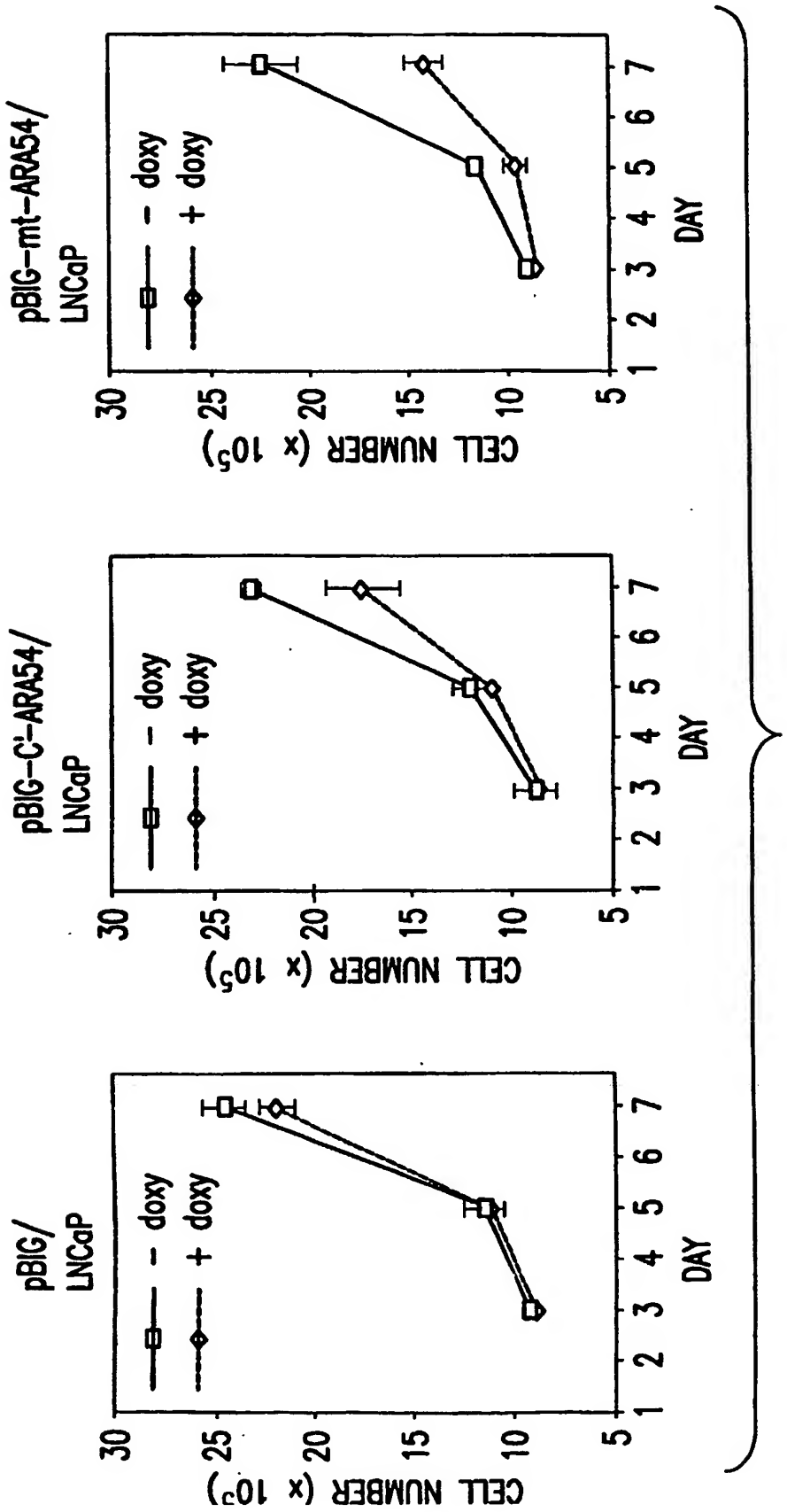

pBIG-mt-ARA54/
LNCaP
- doxy
+ doxy
CELL NUMBER (x 10⁵)
DAY
pBIG-C'-ARA54/
LNCaP
- doxy
+ doxy
CELL NUMBER (x 10⁵)
DAY
pBIG/
LNCaP
- doxy
+ doxy
CELL NUMBER (x 10⁵)
DAY

FIG.4A1

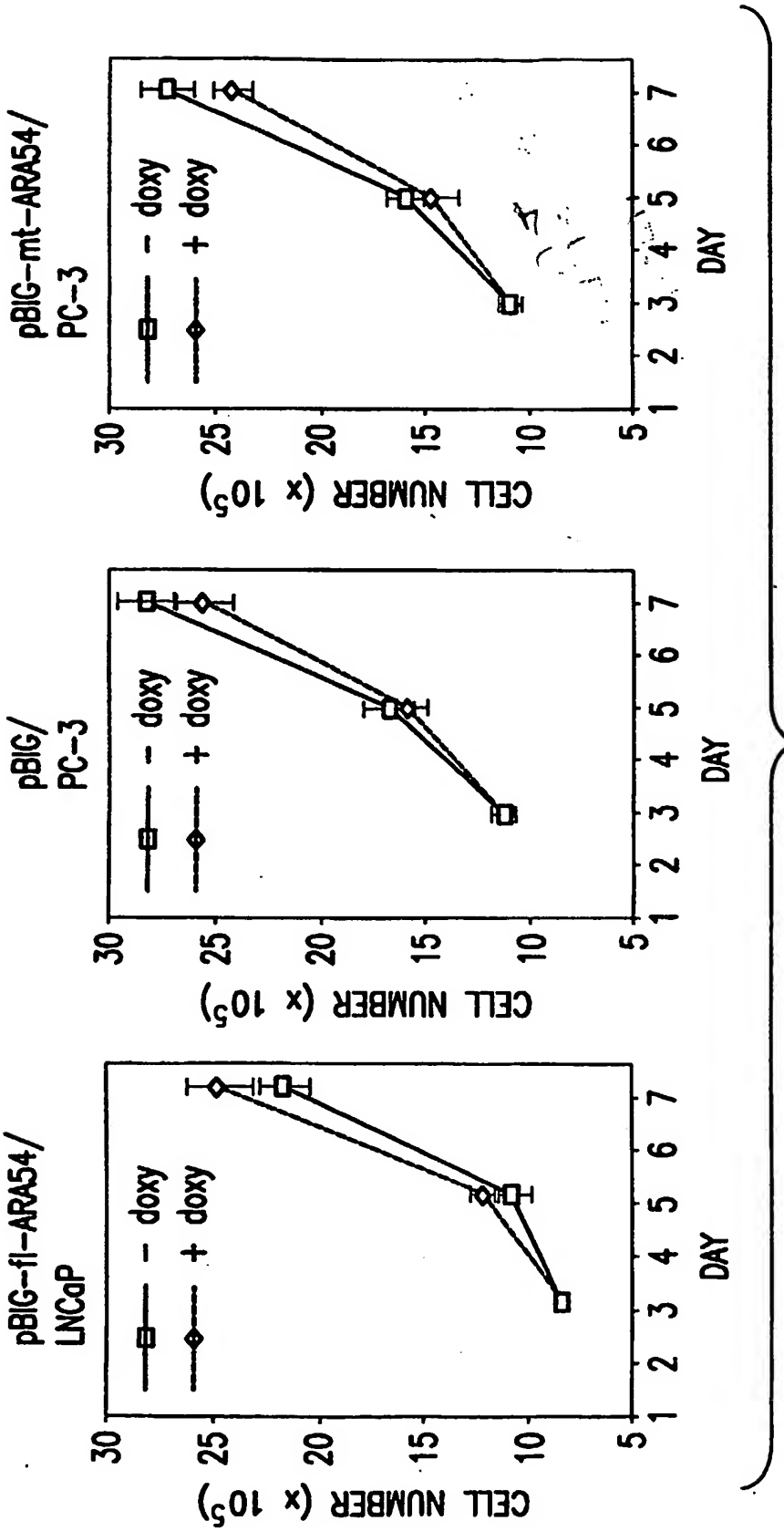

pBIG-mt-ARA54/
PC-3
pBIG/
PC-3
pBIG-fl-ARA54/
LNCaP
- doxy
+ doxy
CELL NUMBER (x 10^5)
DAY
30
25
20
15
10
5
1
2
3
4
5
6
7

FIG.4A2

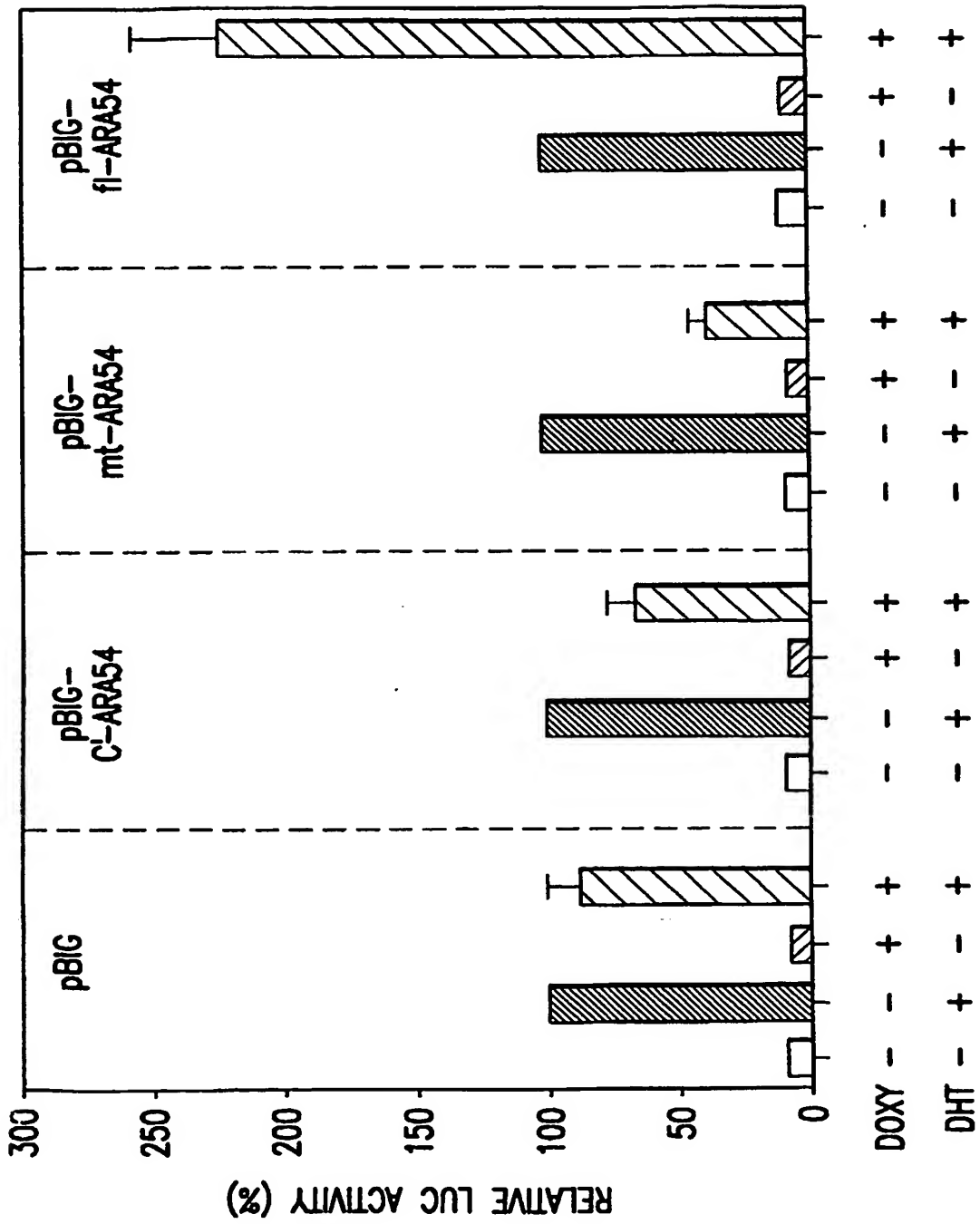

RELATIVE LUC ACTIVITY (%)
300
250
200
150
100
50
0
pBIG
pBIG-C'-ARA54
pBIG-mt-ARA54
pBIG-fl-ARA54
DOXY
DHT
+ + + + + + + + + + + +
- + - - + - - + - - + -
- - + - - + - - + - - +

FIG.4B

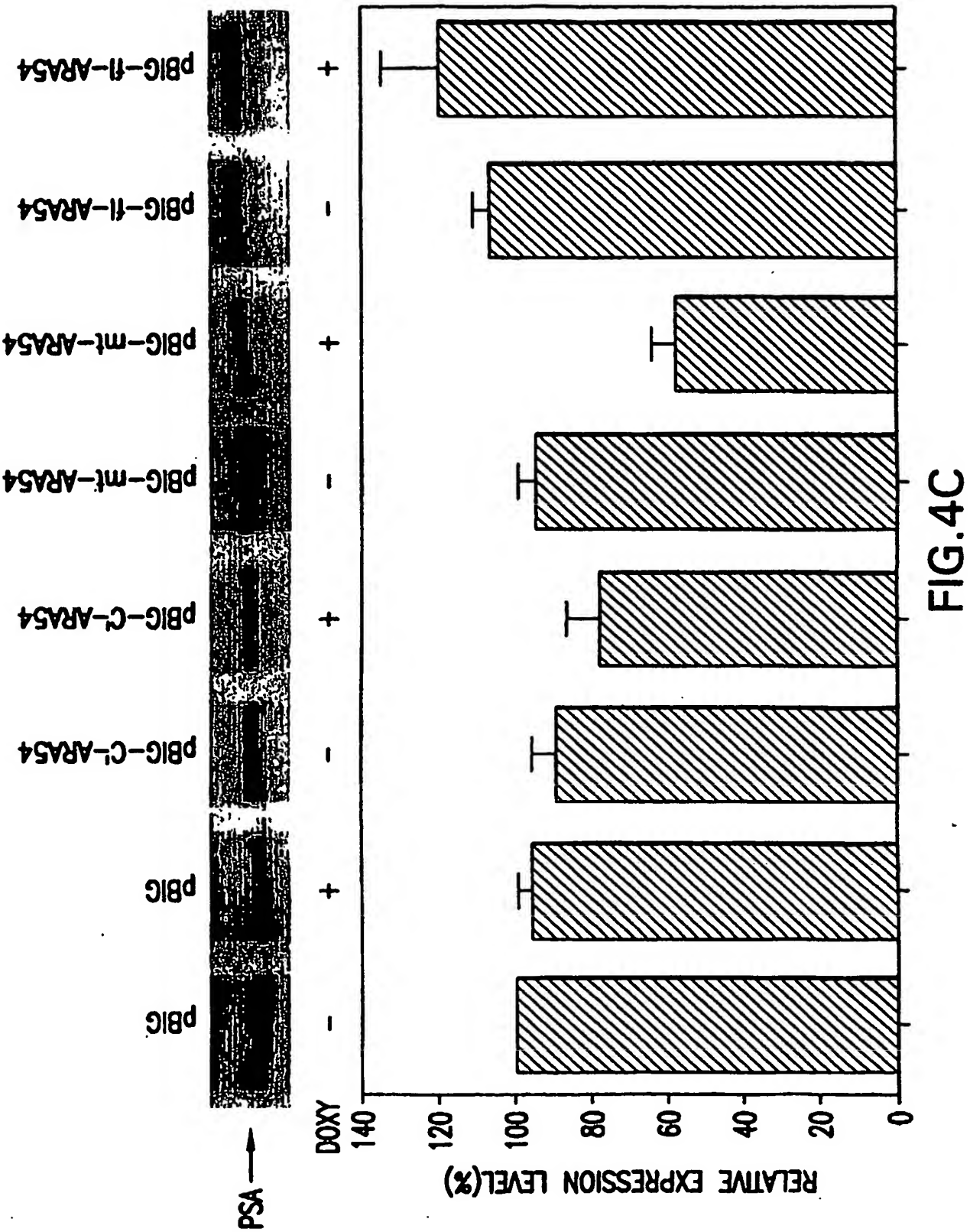

RELATIVE EXPRESSION LEVEL(%)
0
20
40
60
80
100
120
140
DOXY
-
+
-
+
-
+
-
+
pBIG
pBIG
pBIG-C1-ARA54
pBIG-C1-ARA54
pBIG-mt-ARA54
pBIG-mt-ARA54
pBIG-fl-ARA54
pBIG-fl-ARA54
PSA

FIG.4C

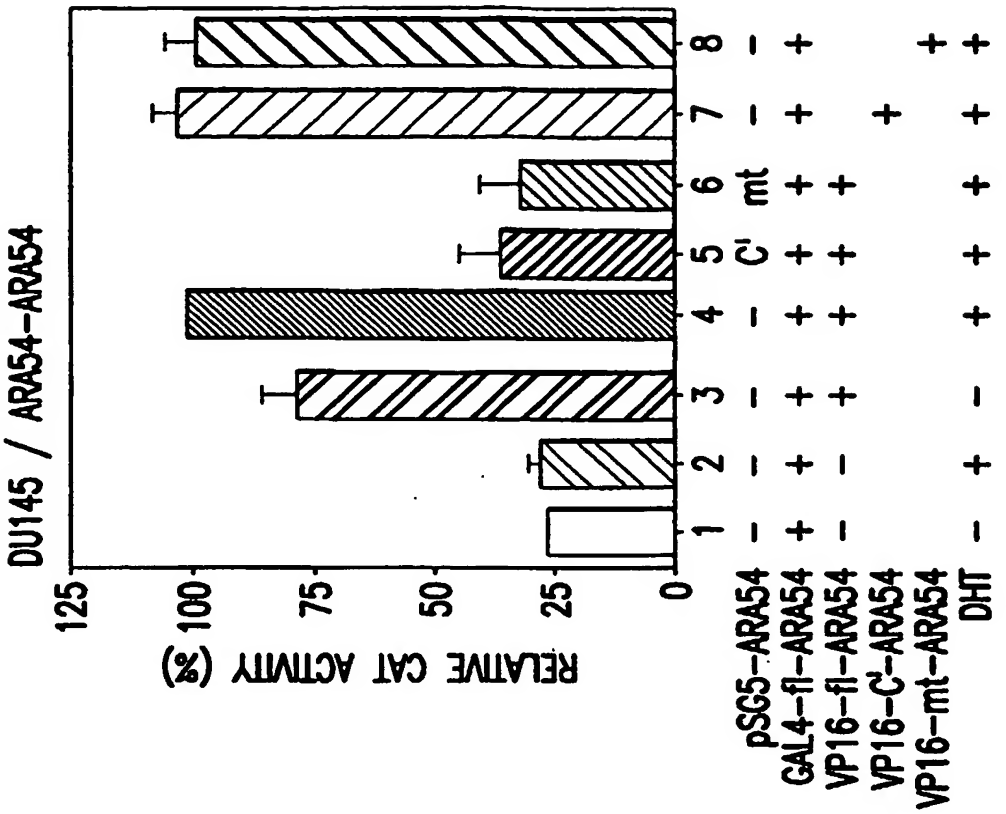

DU145 / ARA54-ARA54
RELATIVE CAT ACTIVITY (%)
125
100
75
50
25
0
1 2 3 4 5 6 7 8
pSG5-ARA54 - + - - - - - +
GAL4-fl-ARA54 + - + + + + + +
VP16-fl-ARA54 - + + + + + + +
VP16-C'-ARA54 + +
VP16-mt-ARA54 + +
DHT - + - + + + + +
C' mt

FIG.5B

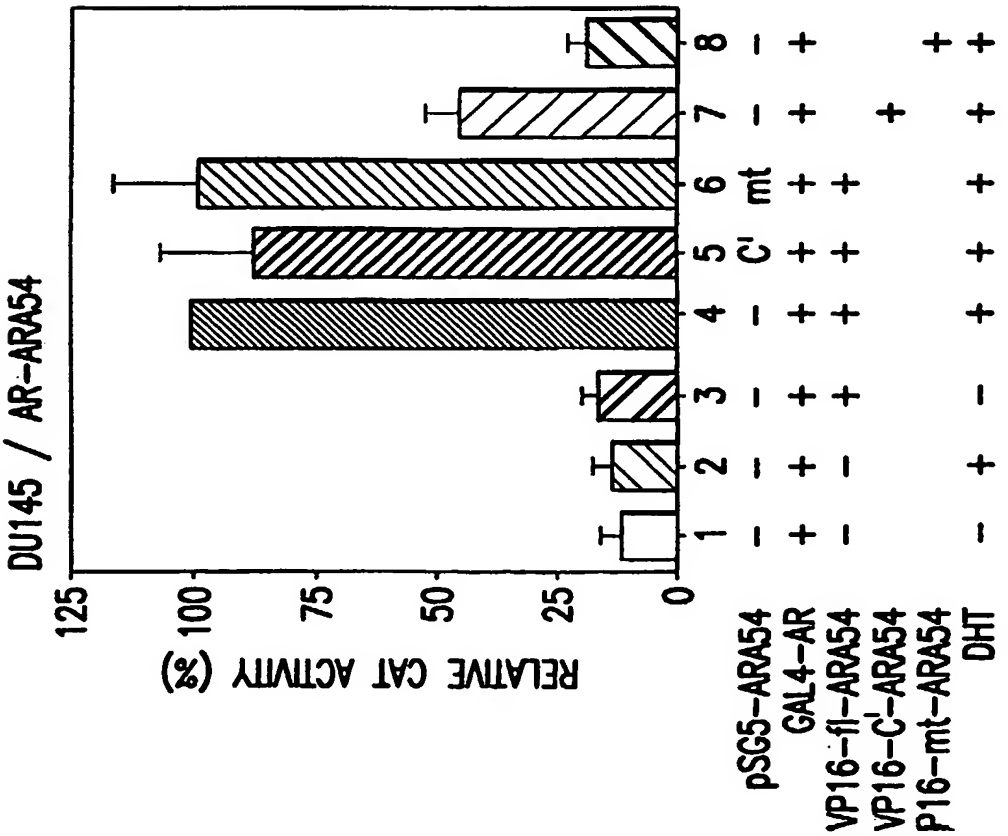

DU145 / AR-ARA54
RELATIVE CAT ACTIVITY (%)
125
100
75
50
25
0
1 2 3 4 5 6 7 8
pSG5-ARA54 - + - - - - - +
GAL4-AR + - + + + + + +
VP16-fl-ARA54 - + + + + + + +
VP16-C'-ARA54 + +
P16-mt-ARA54 + +
DHT - + - + + + + +
C' mt

FIG.5A

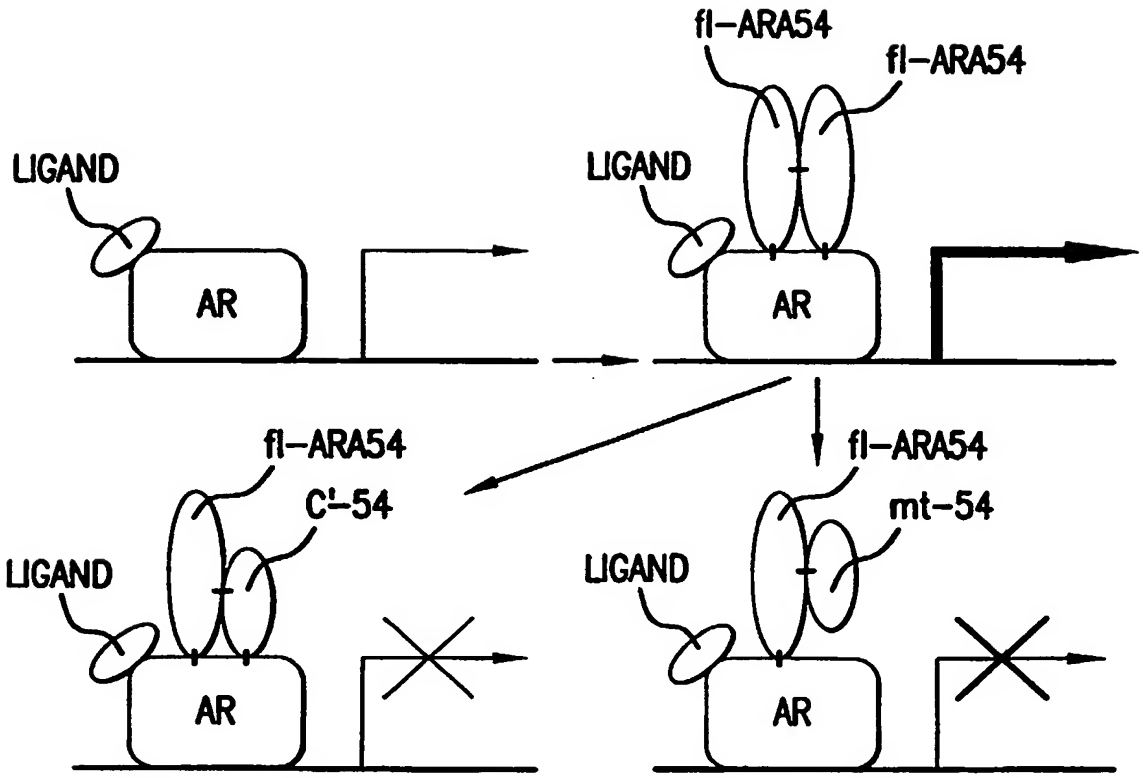

fl-ARA54
fl-ARA54
LIGAND
LIGAND
AR
AR
fl-ARA54
C'-54
fl-ARA54
mt-54
LIGAND
LIGAND
AR
AR

FIG.6

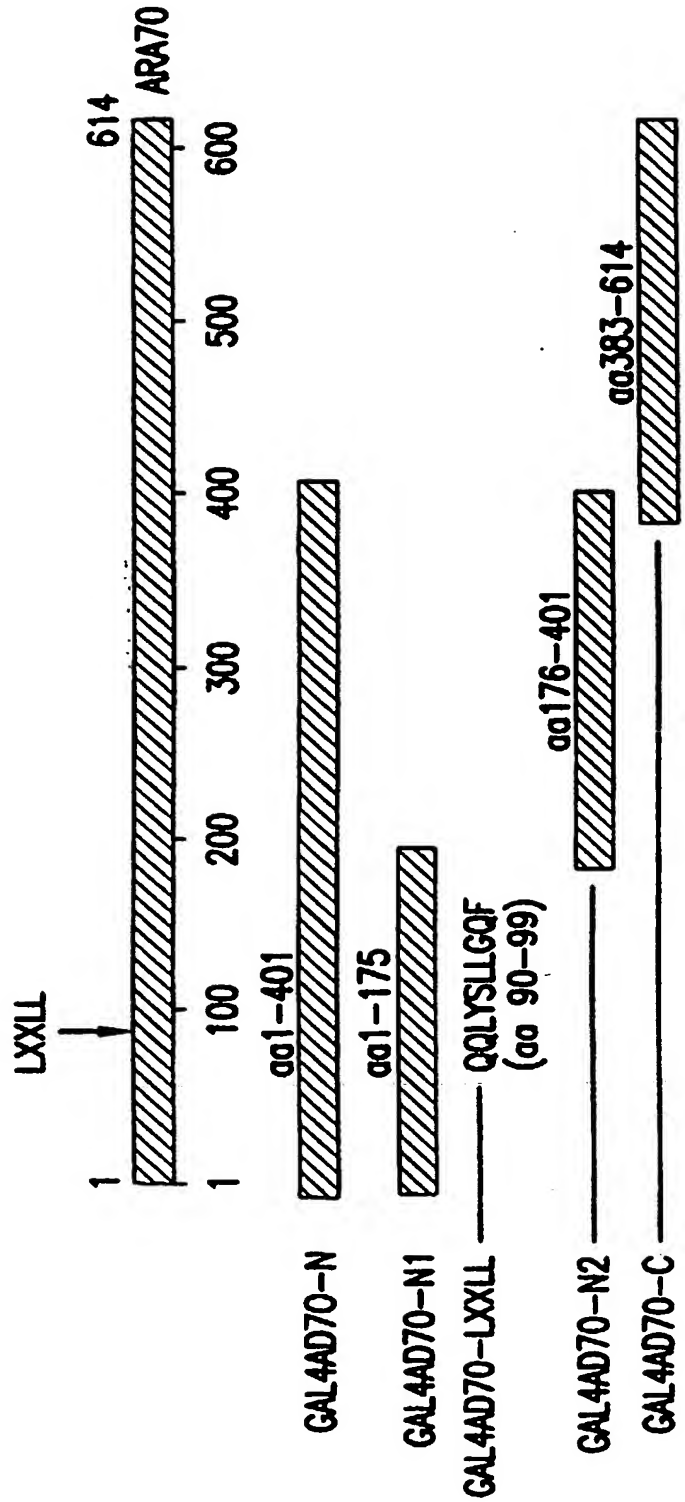

LXXLL
1
614
AR70
1
100
200
300
400
500
600
aa1-401
aa1-175
QQLYSLLGQF
(aa 90-99)
aa176-401
aa383-614
GAL4AD70-N
GAL4AD70-N1
GAL4AD70-LXXLL
GAL4AD70-N2
GAL4AD70-C

FIG.7A

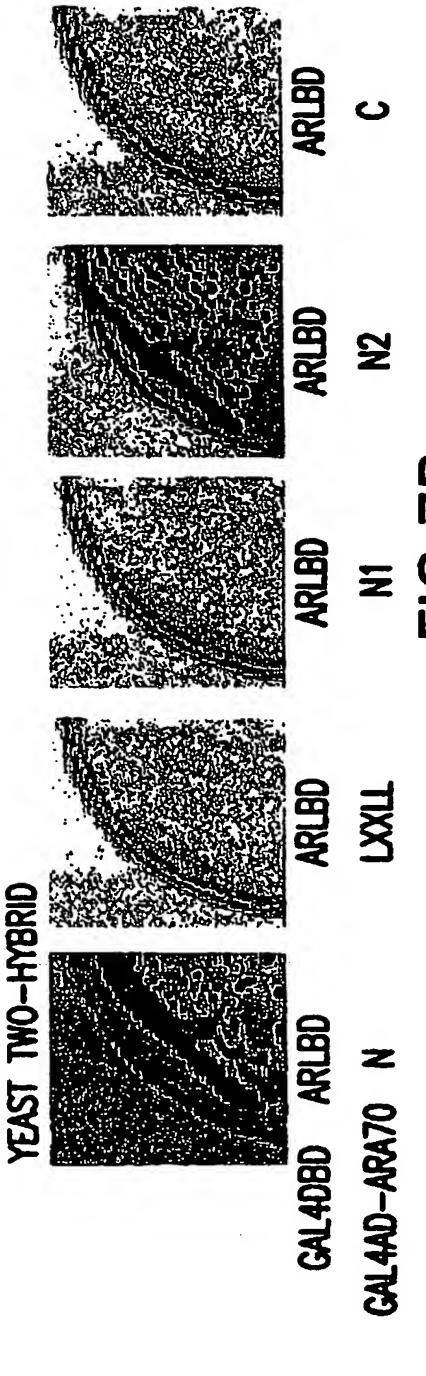

YEAST TWO-HYBRID
GAL4DBD ARLBD
GAL4AD-AR70 N
ARLBD
LXXLL
ARLBD
N1
ARLBD
N2
ARLBD
C

FIG.7B

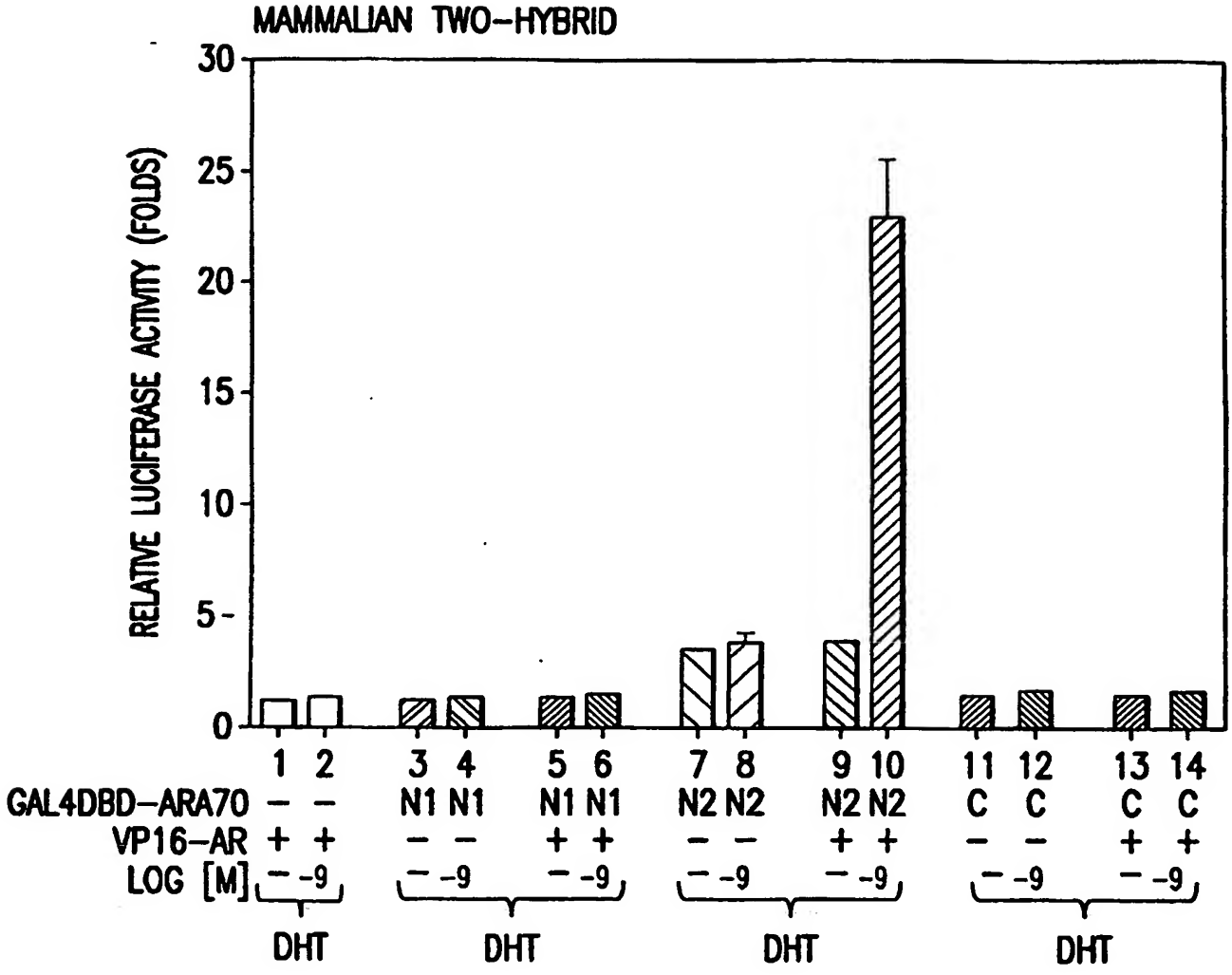

MAMMALIAN TWO-HYBRID
RELATIVE LUCIFERASE ACTIVITY (FOLDS)
30
25
20
15
10
5
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14
GAL4DBD-ARA70 - - N1 N1 N1 N1 N2 N2 N2 N2 C C C C
VP16-AR + + - - + + - - + + - - + +
LOG [M] - -9 - -9 - -9 - -9 - -9 - -9 - -9
DHT DHT DHT DHT

FIG.7C

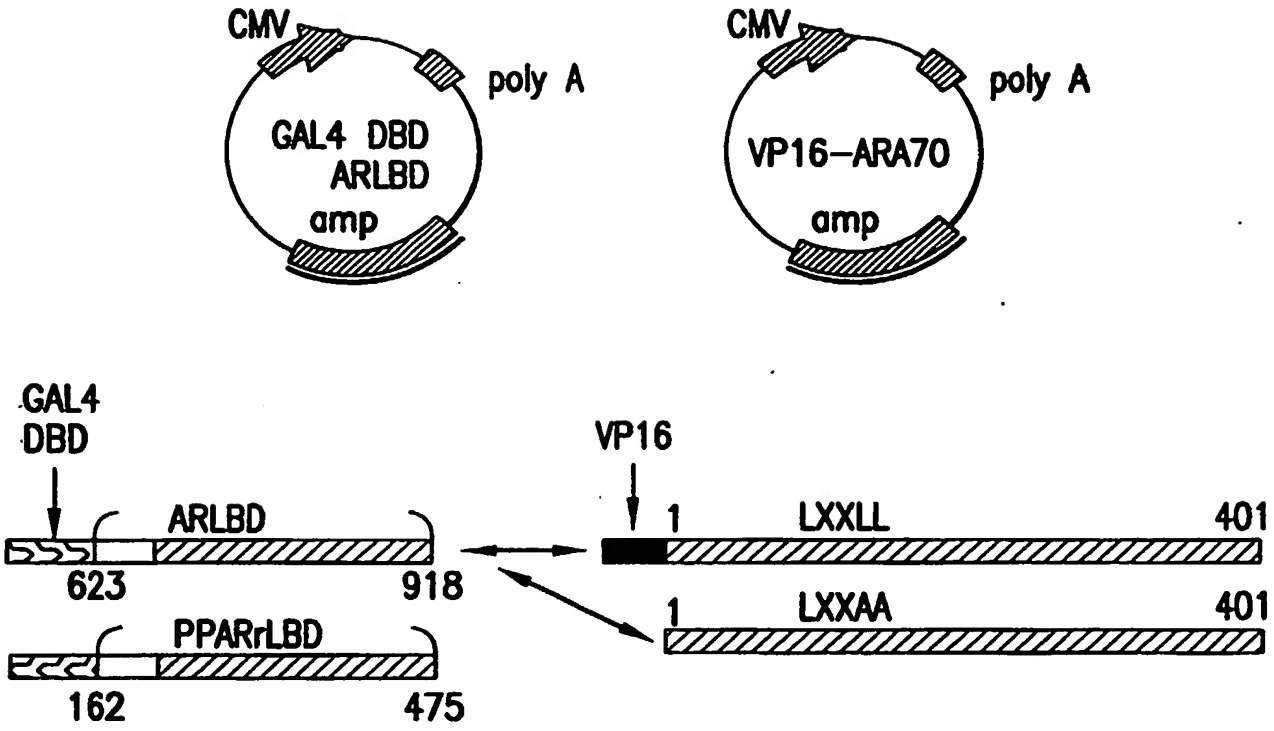

CMV
poly A
GAL4 DBD
ARLBD
amp
CMV
poly A
VP16-ARA70
amp
GAL4
DBD
ARLBD
623
918
PPARrLBD
162
475
VP16
1
LXXLL
401
1
LXXAA
401

FIG.8A

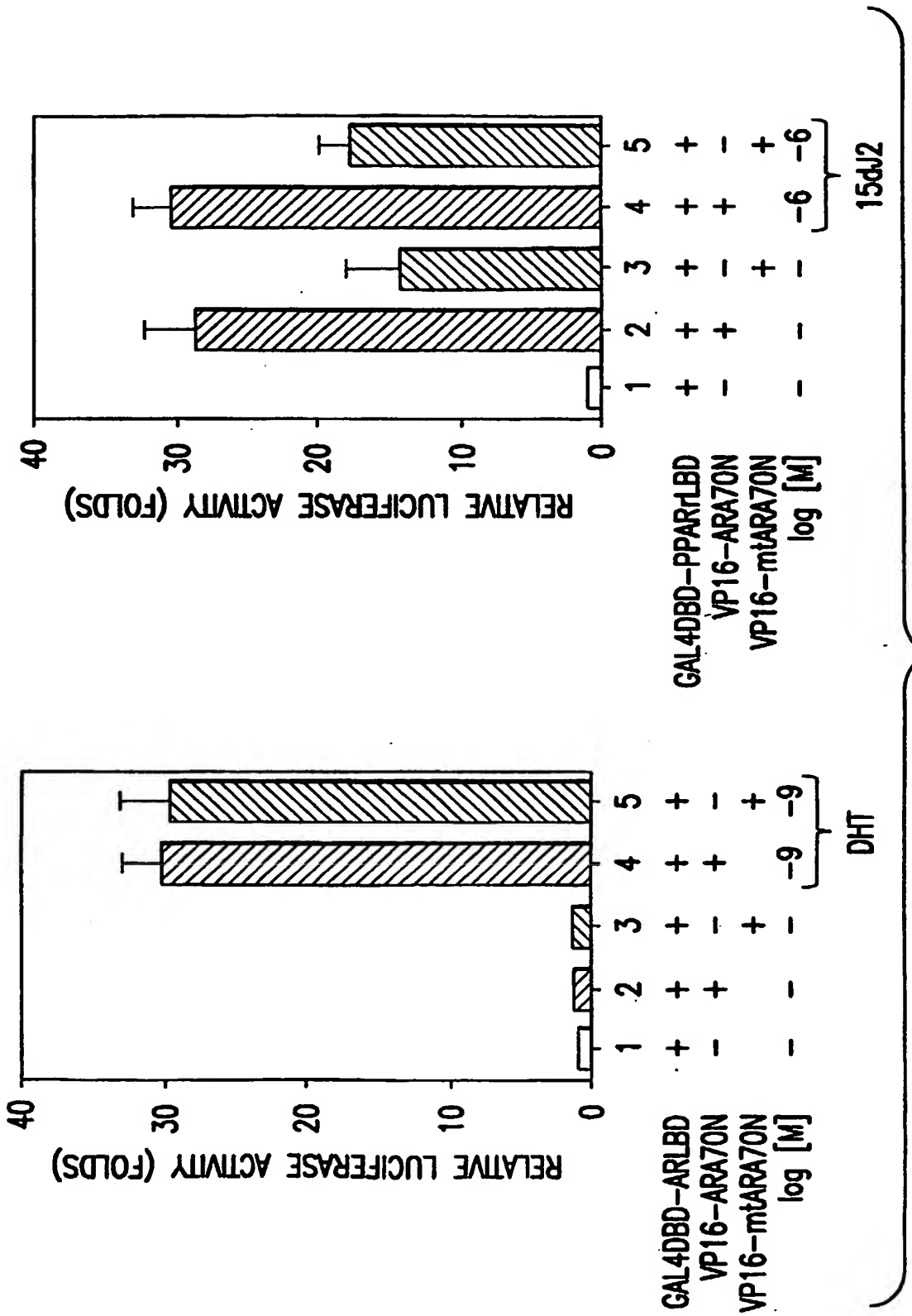

RELATIVE LUCIFERASE ACTIVITY (FOLDS)
0
10
20
30
40
GAL4DBD-ARLBD
VP16-ARA70N
VP16-mtARA70N
log [M]
1 2 3 4 5
+ + + + +
- + - - +
- - + - +
- - - -9 -9
DHT
RELATIVE LUCIFERASE ACTIVITY (FOLDS)
0
10
20
30
40
GAL4DBD-PPARγLBD
VP16-ARA70N
VP16-mtARA70N
log [M]
1 2 3 4 5
+ + + + +
- + - - +
- - + - +
- - - -6 -6
15dJ2

FIG.8B

ARA70	86	QQQAQQLYSLLGQFNCL	112	
SRC-1	627	SQTSHKLVQLLTTTAEQ	643	NR box1
	684	TARHKILHRLLQEGSPS	700	NR box2
	741	SKDHQLLRYLLDKDEKD	757	NR box3
TIF2	684	KEKHKILHRLLQDSAEQ	700	NR box2
p/CIP	672	QEKHRILHRLLQNGAEQ	688	NR box2
hTIF1	713	RSILTSLLLNSSQ	728	
RIP140	130	STLLASLLQSFSS	142	
	183	SSHLKTLLKKSKV	194	
	933	FNVLKQLLLSENC	945	

FIG.8C

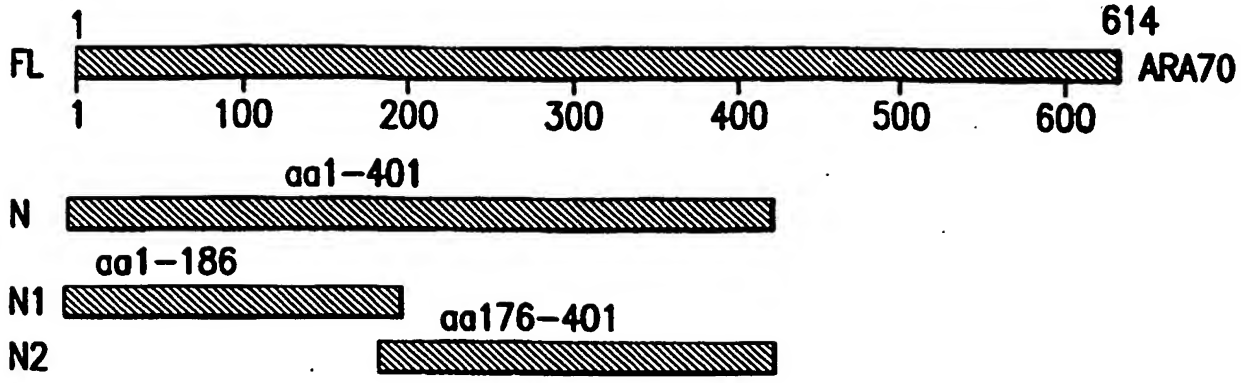

1
614
FL
ARA70
1
100
200
300
400
500
600
aa1–401
N
aa1–186
N1
aa176–401
N2

FIG.9A

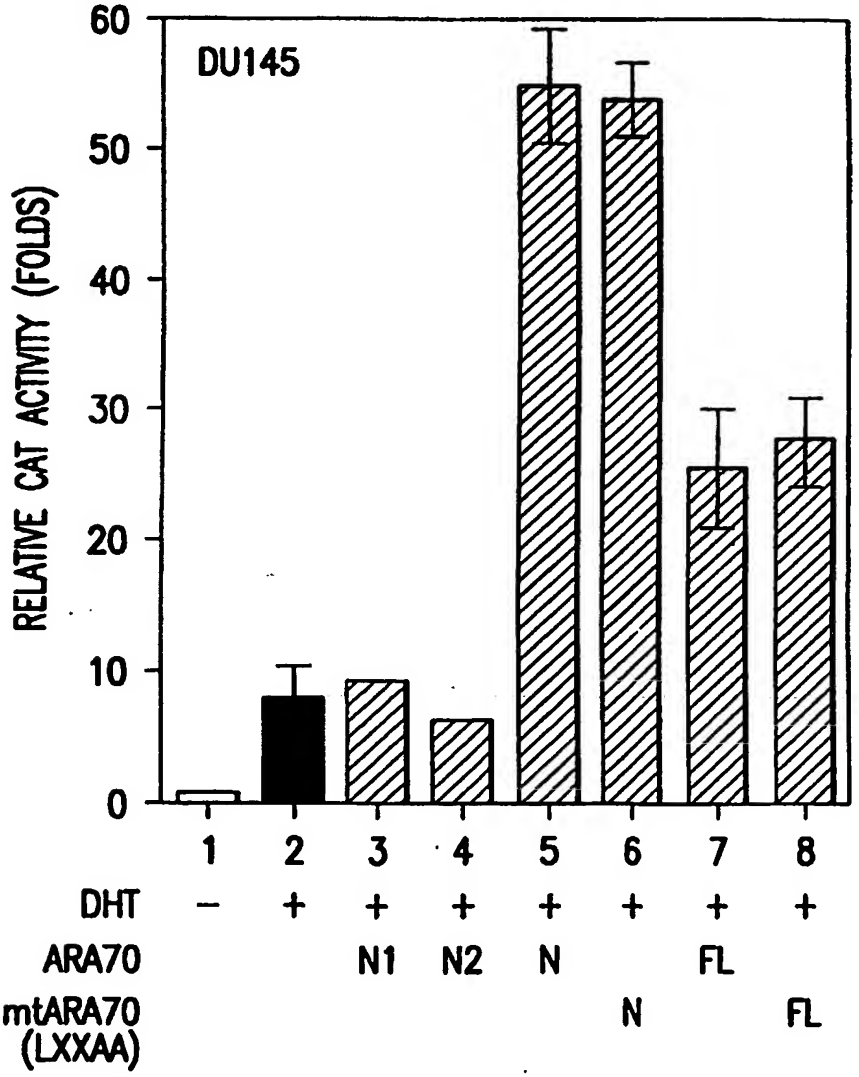

DU145
RELATIVE CAT ACTIVITY (FOLDS)
60
50
40
30
20
10
0
1 2 3 4 5 6 7 8
DHT – + + + + + + +
ARA70 N1 N2 N FL
mtARA70 (LXXAA) N FL

FIG.9B

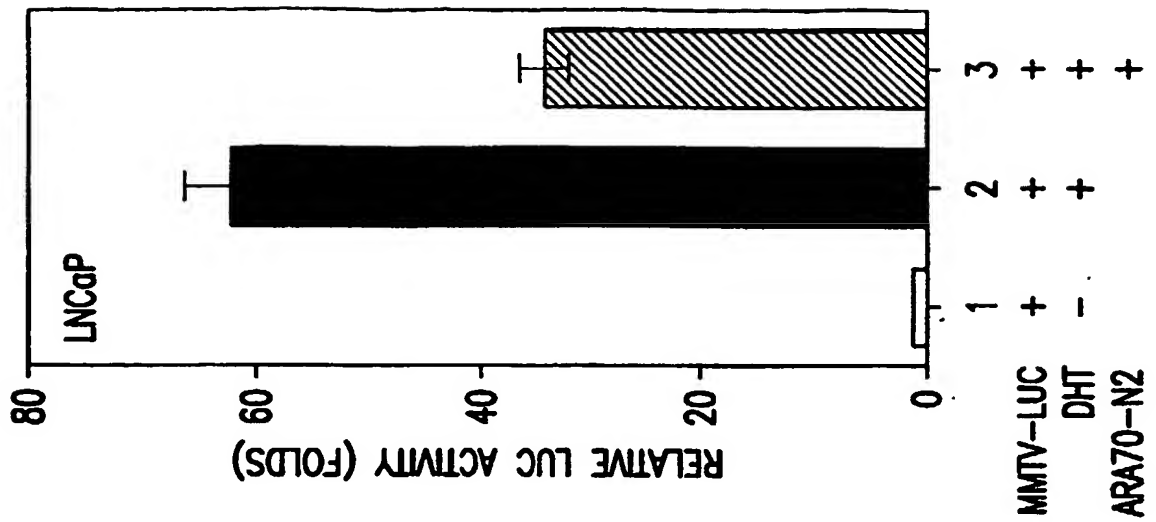


FIG.10B

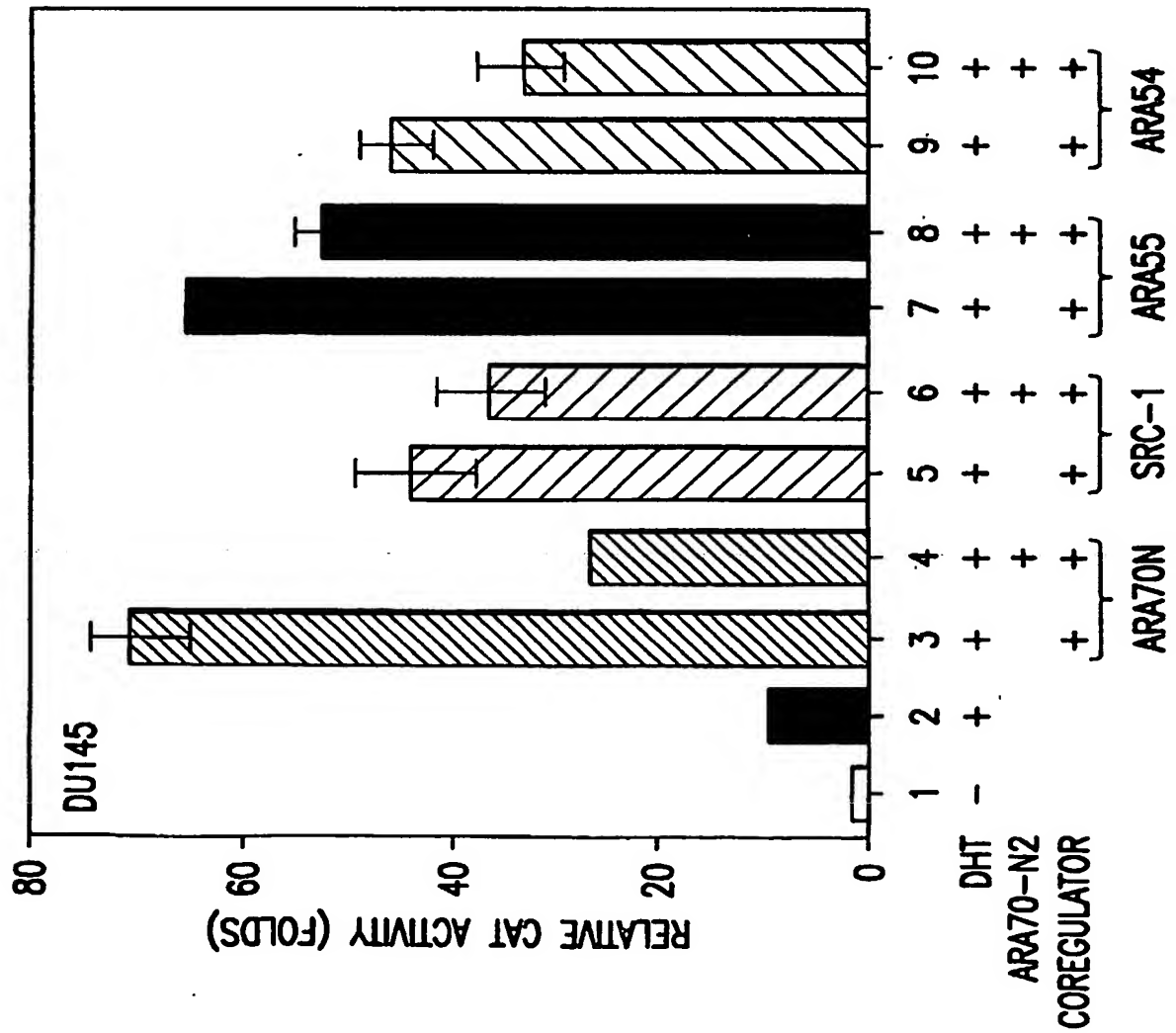


FIG.10A

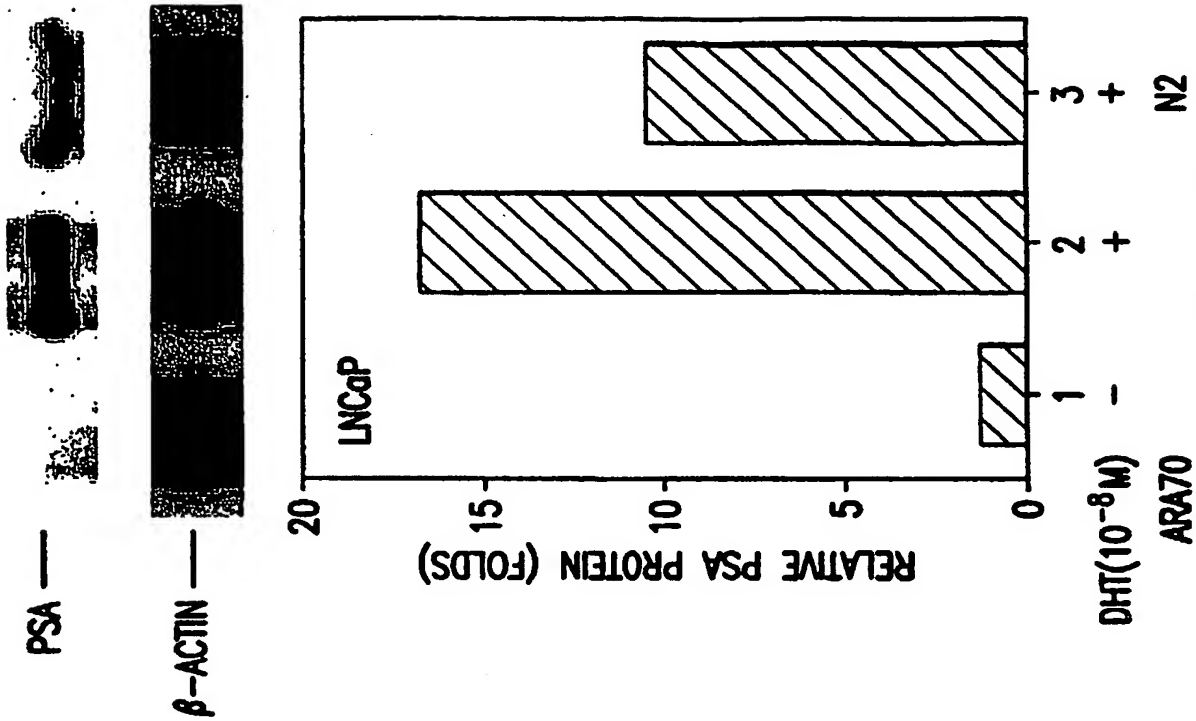


FIG.10D

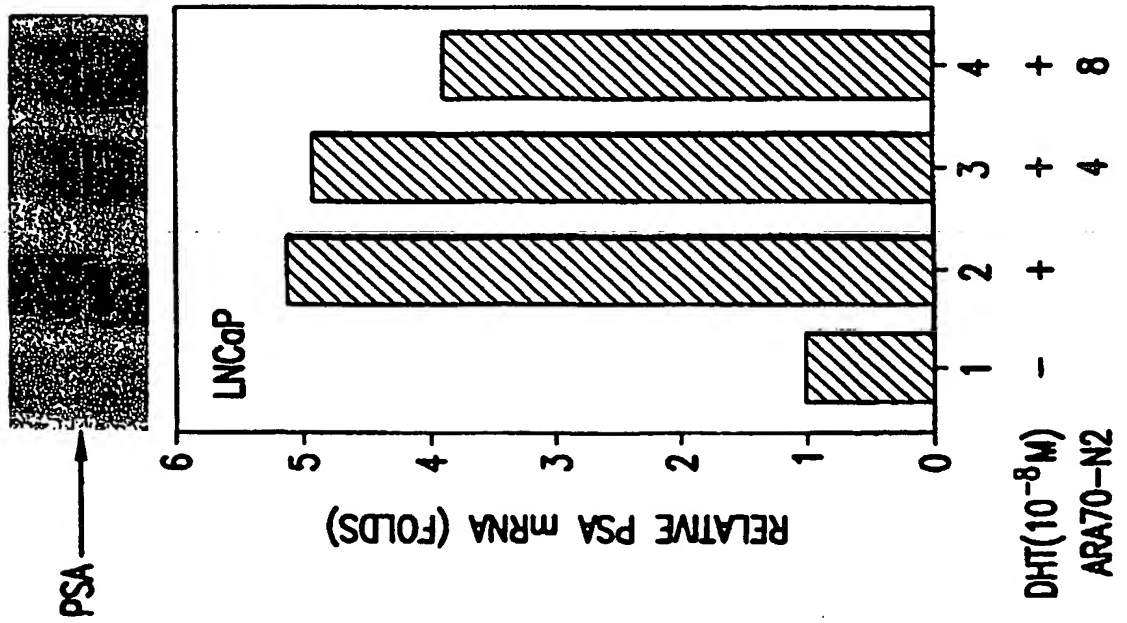


FIG.10C

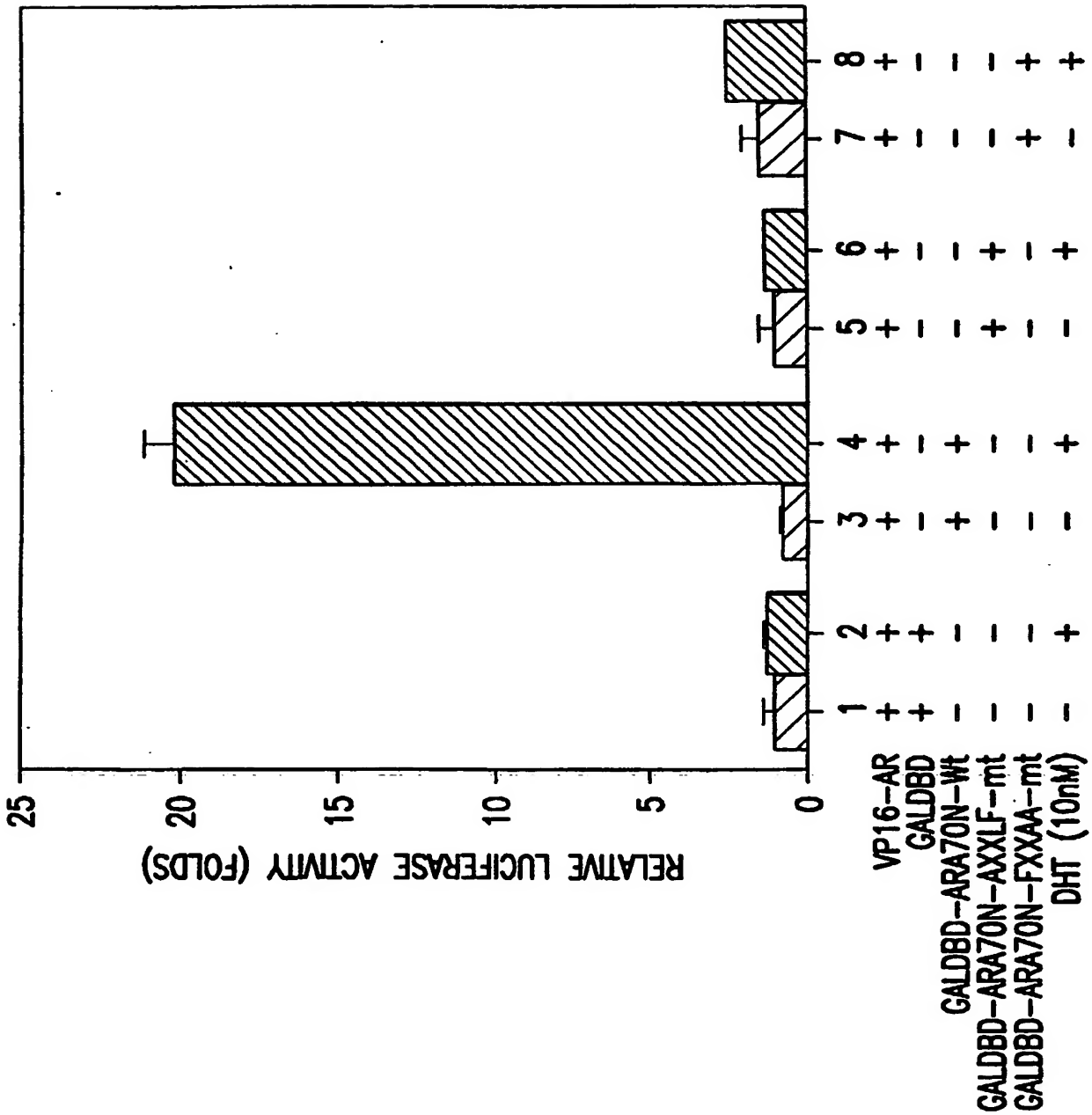

RELATIVE LUCIFERASE ACTIVITY (FOLDS)
25
20
15
10
5
0
1 + + - - - -
2 + + - - - +
3 + - + - - -
4 + - + - - +
5 + - - + - -
6 + - - + - +
7 + - - - + -
8 + - - - + +
VP16-AR
GALDBD
GALDBD-ARA70N-Wt
GALDBD-ARA70N-AXXLF-mt
GALDBD-ARA70N-FXXAA-mt
DHT (10nM)

FIG.11A

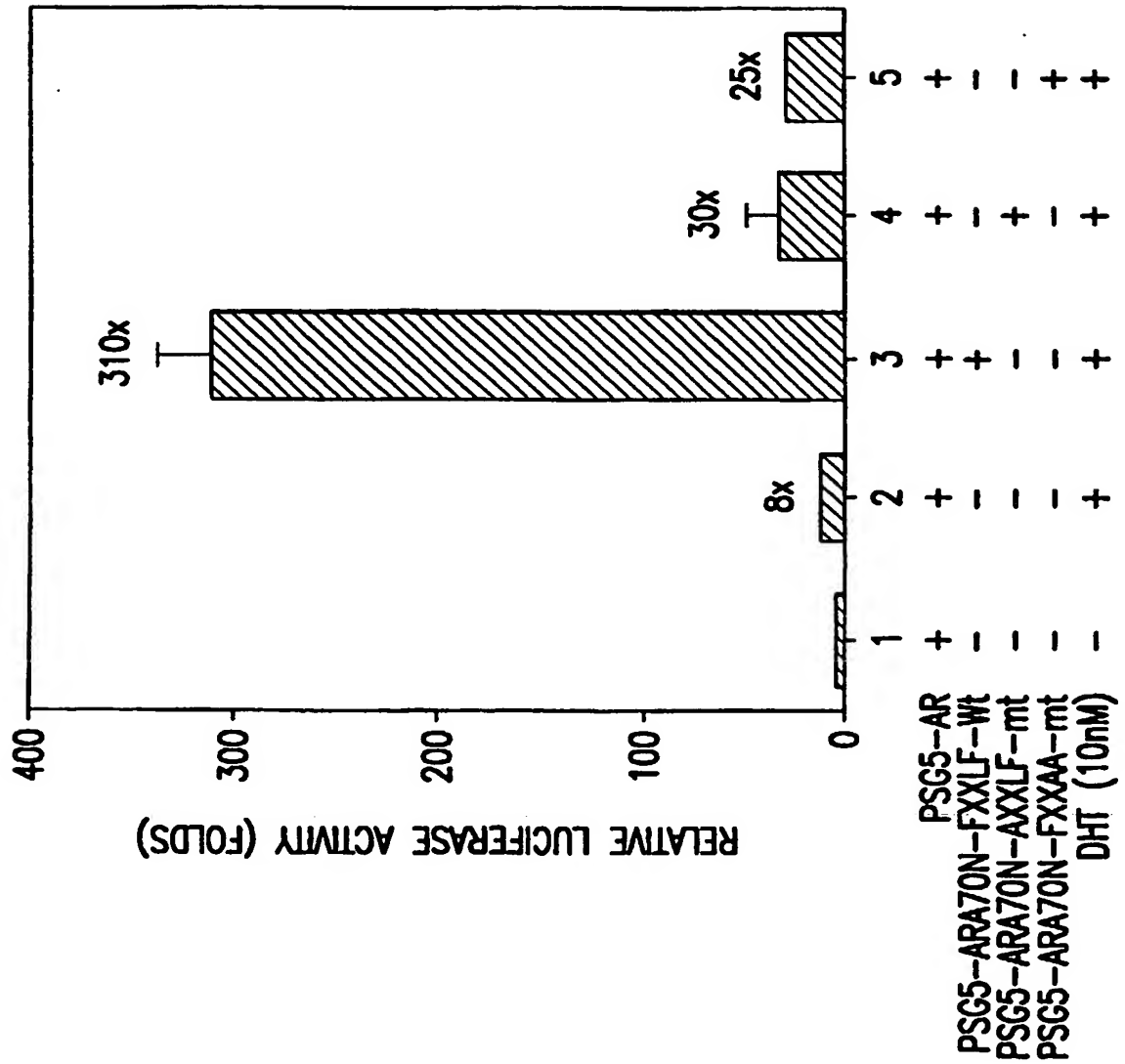

RELATIVE LUCIFERASE ACTIVITY (FOLDS)
400
300
200
100
0
310x
8x
30x
25x
1
2
3
4
5
PSG5-AR
PSG5-ARA70N-FXXLF-Wt
PSG5-ARA70N-AXXLF-mt
PSG5-ARA70N-FXXAA-mt
DHT (10nM)

FIG.11B

FIG.12A

FIG.12B

FIG.12C

FIG.12D

FIG.12E

FIG.12F

FIG.12G

FIG.12H

FIG.12I

FIG.12J

FIG.12K1

FIG.12K2

FIG.12K3

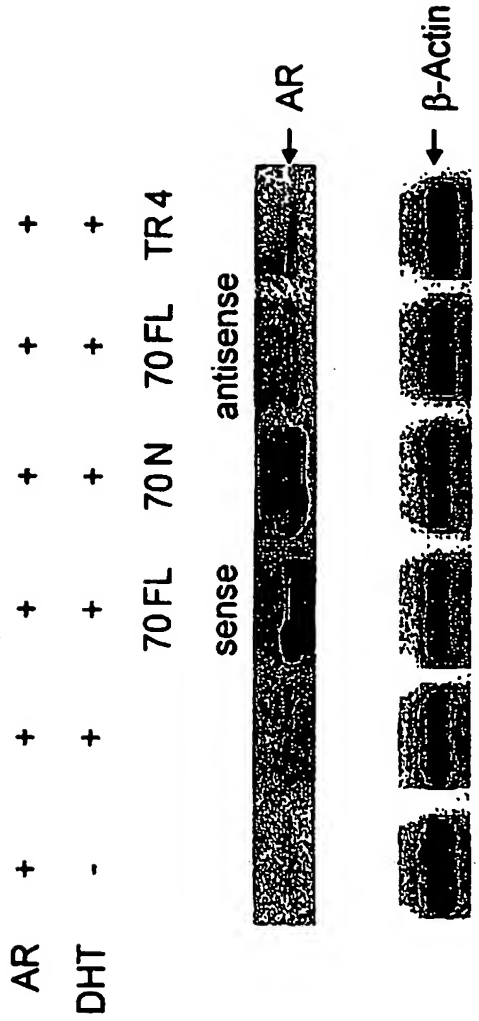


FIG.13

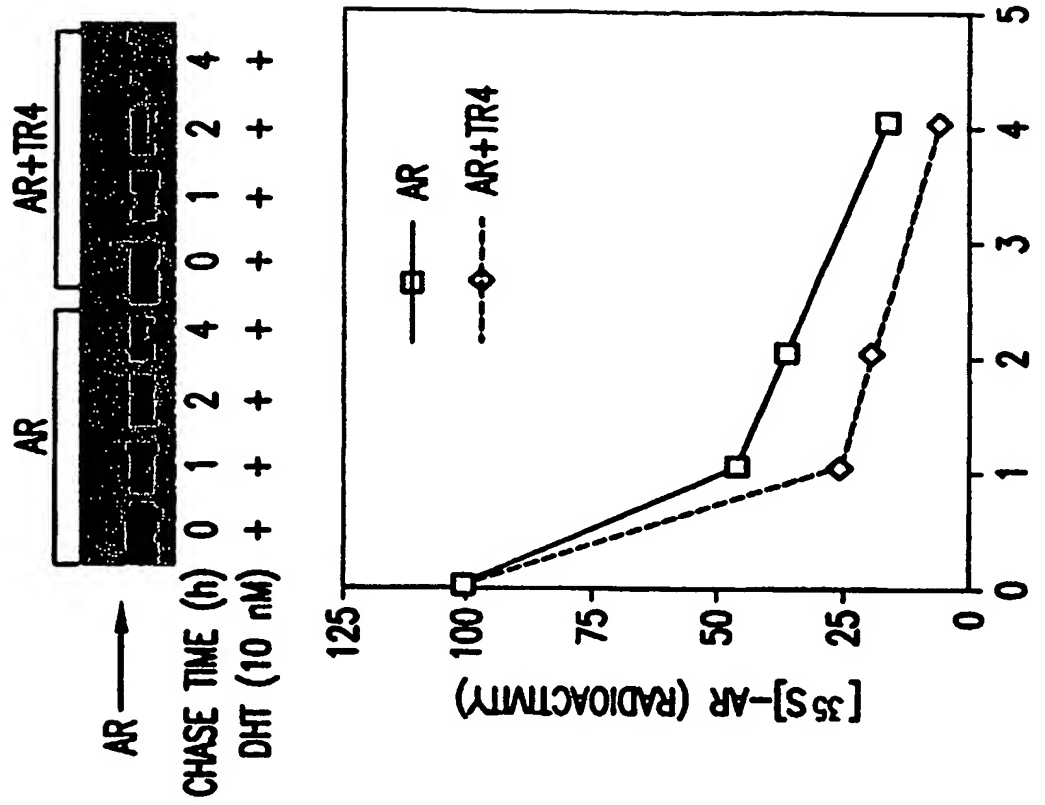


FIG.14B

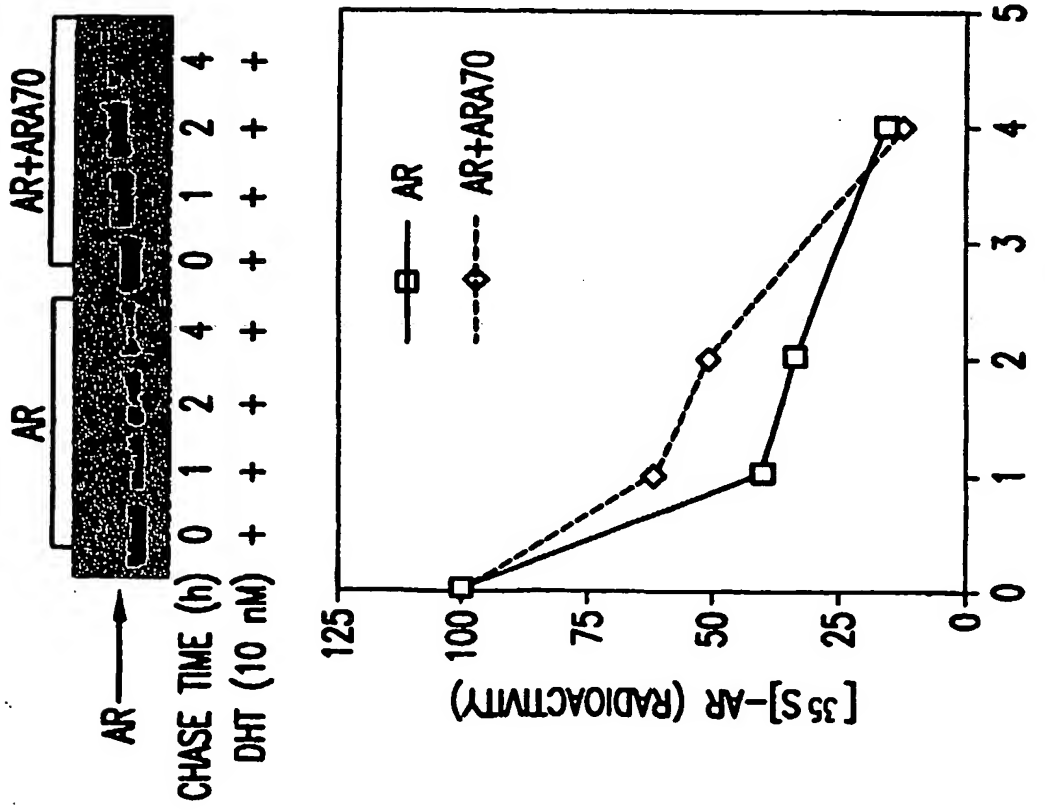


FIG.14A

1 MPLKTRTALS DDPDSSTSTL GNMLELPGTS SSSTSQELPF CQPKKKSTPL KYEVGDLIWA KFKRRPHMPC RICSDPLINT
81 HSKMKVSNRR PYRQYYVEAF GDPSERAWVA GKAIVMFEGH HQFEELPVLR RRGKQKEKGY RHKVPQKILS KMEASVGLAE
161 QYDVPKGSKN RKCIPGSIKL DSEEDMPFED CTNDPESEHD LLLNGCLKSL AFDSEHSADE KEKPCAKSRA RKSSDNPKRT
241 SVKKGHIQFE AHKDERRCKI PENLGLNFIS GDISDTQASN ELSRIANSLT GSNTAPCSFL FSSQGKNTAK KEFETSNGDS
321 LLGLPEGALI SKCSREKNKP QRSLLCGSKV KLCYIGAGDE EKRSDSISIC EKRSDSISIC TTSDDGSSDL DPIEHSSESD NSVLEIPDAF
401 DRTENMLSMQ KNEKIKYSRF AATNTRVKAK QKPLISNSHT DHLMGCTKSA EPGTETPQVN LSDLKASTLV HKPQSDFTND
561 SGKVDGLKLL NNMHEKTRDS SDIETAVVKH VLSELKELSY RSLGEDVSDS GTSKPSKPLL FSSASSQNHI PIEPDYKFST
641 LLMALKDMHD SKTKEQRLMT AQNLVSYRSP GRGDGSTNSP VGVSKVLVSG GSTHNSEKKG DGTQNSANPS PSGGDSALSG
721 ELSASLPGLL SDKRDLPASG KSRSDCVTRR NCGRSKPSSK LRDAFSAQAV KNTVNRKALK TERKRKLNQL PSVTLDAVLQ
801 GDRERGGSLR GGAEDPSKED PLQIMGHLTS EDGDHFSDVH FDSKVKQSDP GKISEKGLSF ENGKGPELDS VANSENDELN
881 GVNQVPKKKR WQRLNQRRTK PRKRANRFKE KENSECAFRV LLPSDPVQEG RDEFPEHRTP SASILEEPLT EQNHADCLDS
961 AGPRLNVCDK SSASIGDMEK EPGIPSLTPQ AELPEPAVRS EKKRLRKPSK WLLEYTEEYD QIFAPKKKQK KVQEQVHKVS
1041 SRCEEESLLA RGRSSAQNKQ VDENSLISTK EEPPVLEREA PFLEGPLAQS ELGGGHAELP QLTLSVPVAP EVSPRPALES
1121 EELLVKTPGN YESKRQRKPT KKLLESNDLD PGFMPKKGDL GLSKKCYEAG HLENGITESC ATSYSKDFGG GTTKIFDKPR
1201 KRKRQRHAAA KMDCKKVKND DSSKEIPGSE GELMPHRTAT SPKETVEEGV EHDPGMPASK KMQGERQGGA ALKENVCQNC
1280 EKLGELLLCE AQCCGAFHLE CLGLTEMPRG KFIONECRTG IHTCFVCKQS GEDVKRQLLP LCGKFYHEEC VQKYPPTVMQ
1361 NKGFRCSLHI CTYCHAANPA NVSASKGRLM RCVRCPVAYH ANDFCLAAGS KTLASNSTIC PNFTPRRGC RNHEHVNVSW
1441 CFVCSEGGSL LCCDSCPAAF HRECLNIDIP EGNWYCNDCK AGKKPNYREI VWVKVGRYRW WPAEICHPRA VPSNIDKWRH

NUCLEAR
---- LOCATION
SIGNAL (NLS)

LXXLL MOTIF

PHD FINGER

NLS NLS NLS PHD

FIG.15A

SET DOMAIN
PROLINE-RICH REGION
NUCLEAR LOCATION SIGNAL (NLS)
LXXLL MOTIF
PHD FINGER

FIG.15B

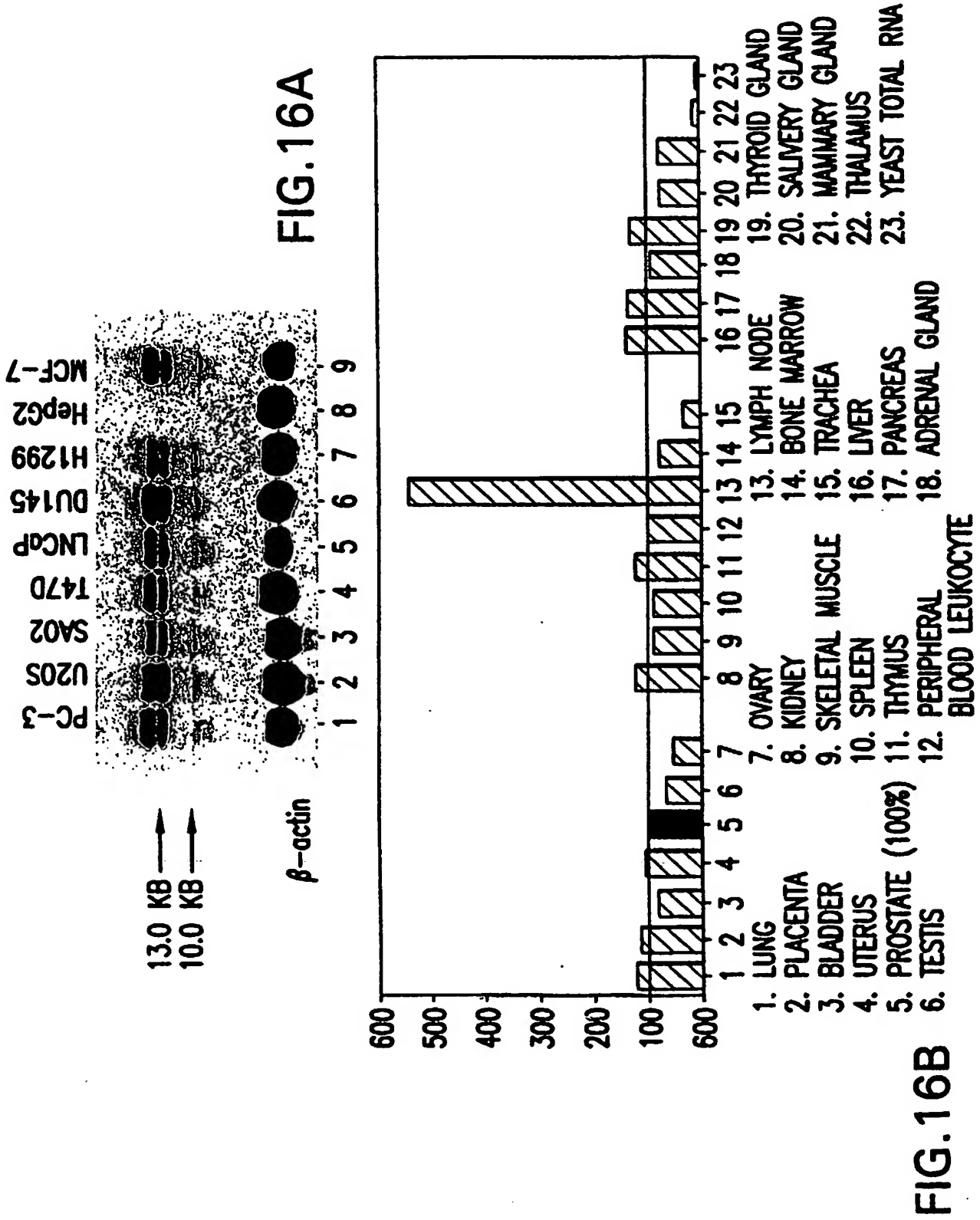


FIG.16A

FIG.16B

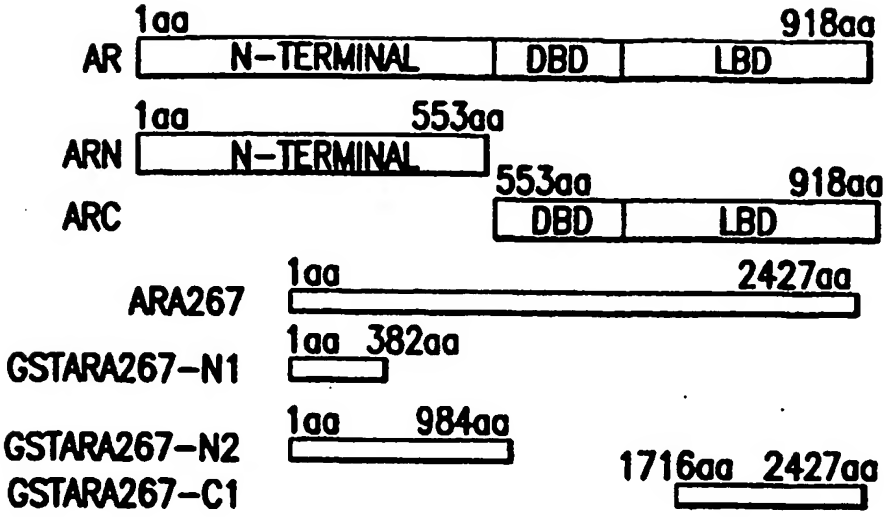


FIG.17A

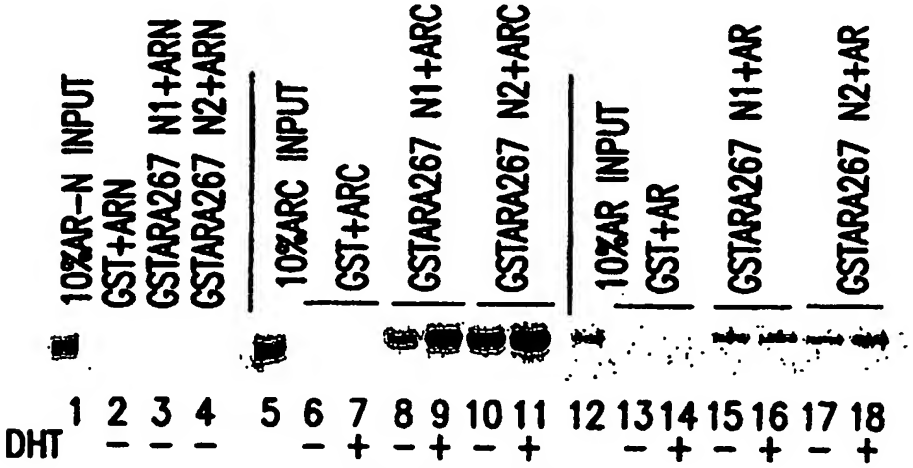


FIG.17B

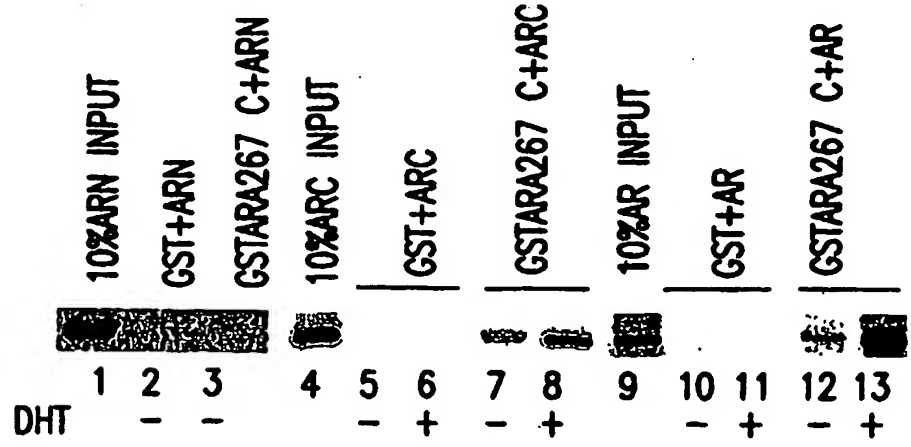


FIG 17C

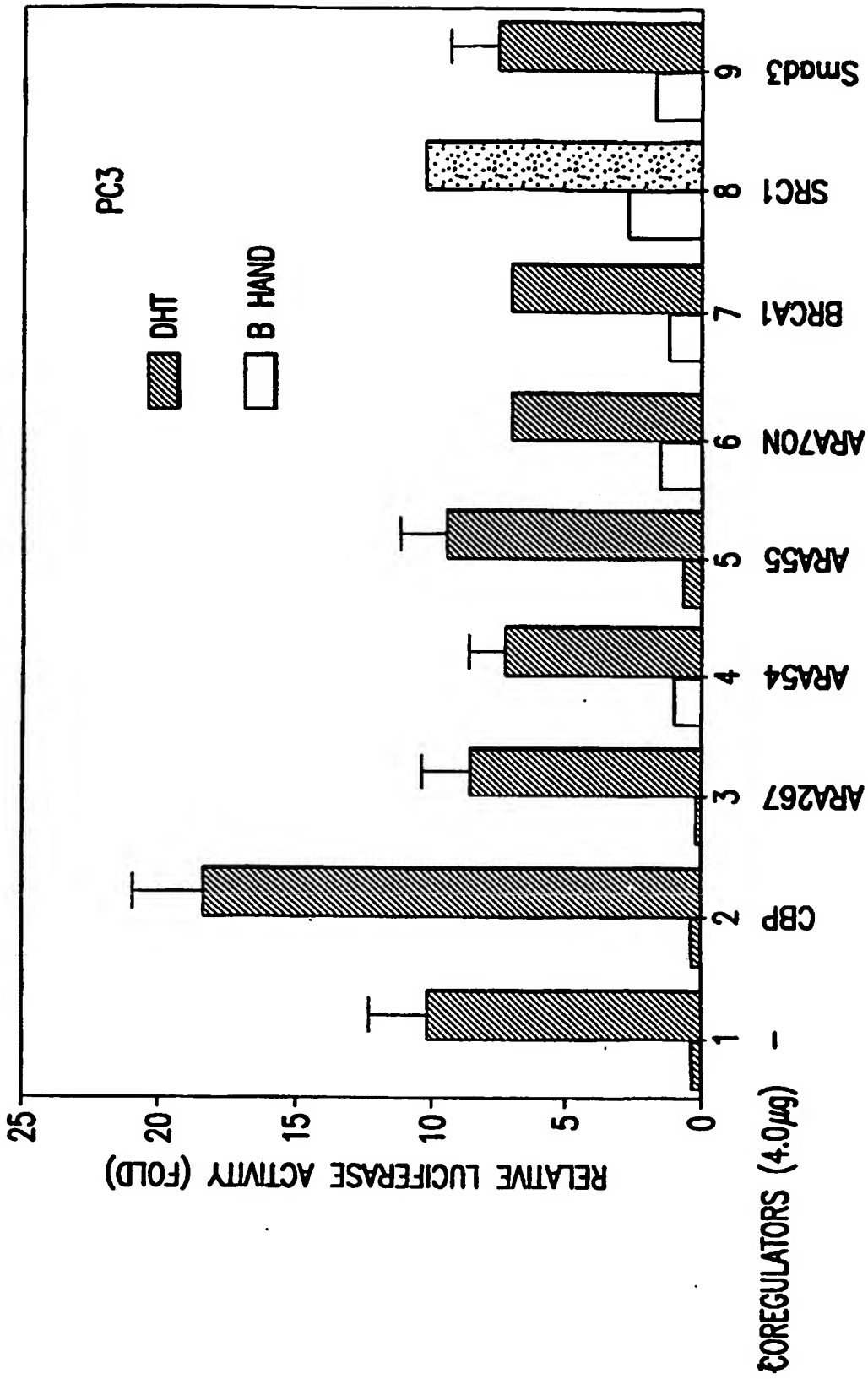

PC3
DHT
B HAND
RELATIVE LUCIFERASE ACTIVITY (FOLD)
0
5
10
15
20
25
COREGULATORS (4.0μg)
1 –
2 CBP
3 ARA267
4 ARA54
5 ARA55
6 ARA70N
7 BRCA1
8 SRC1
9 Smad3

FIG.18

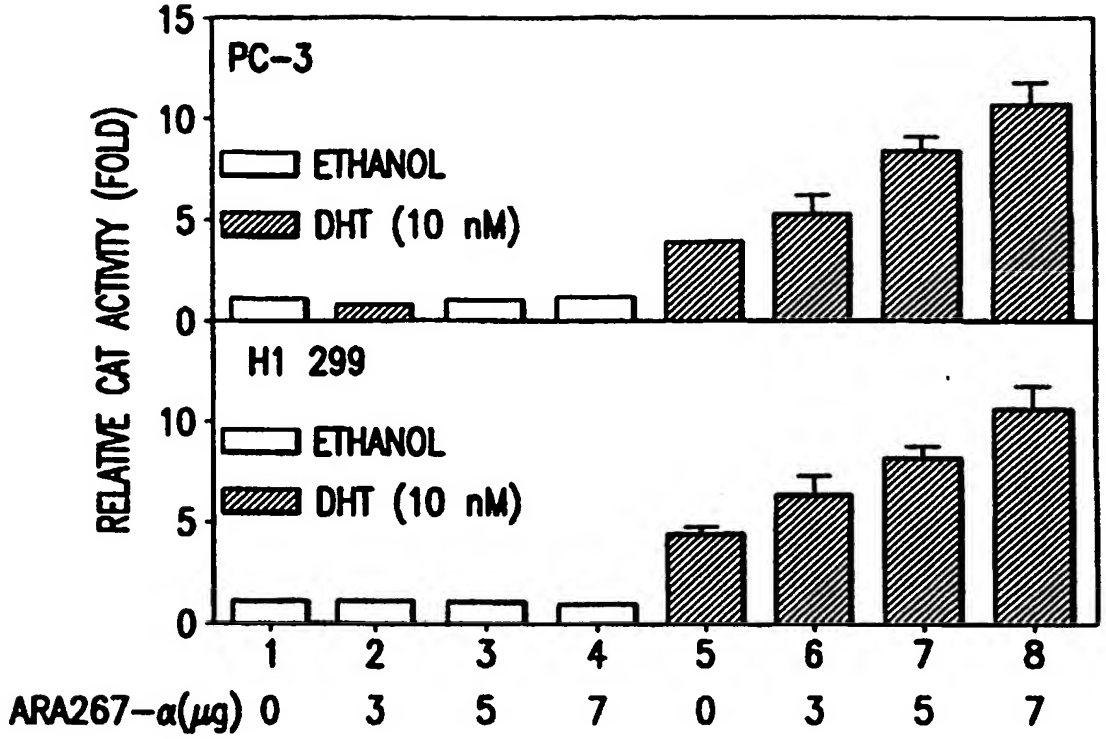


FIG.19A

FIG.19B

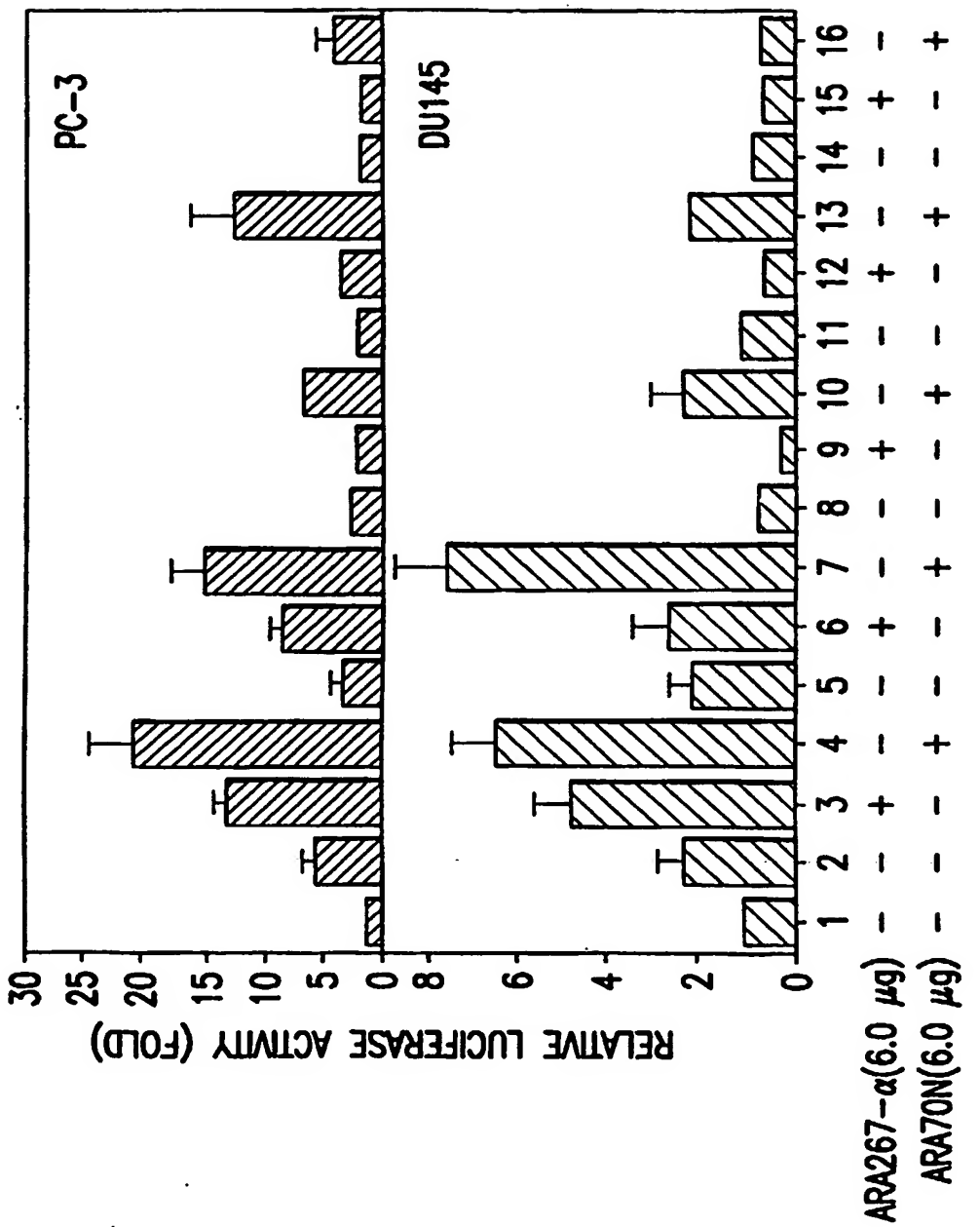

PC-3
DU145
RELATIVE LUCIFERASE ACTIVITY (FOLD)
30
25
20
15
10
5
0
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
ARA267-α(6.0 μg) – – – + – – + – – + – – + – – +
ARA70N(6.0 μg) – – + – – + – – + – – + – – + –
LIGANDS – DHT (10 nM) E2 (10 nM) HF (1 μM) Δ5-ANDROSTENDIOL (10 nM) DHEA (10 nM)

FIG.20

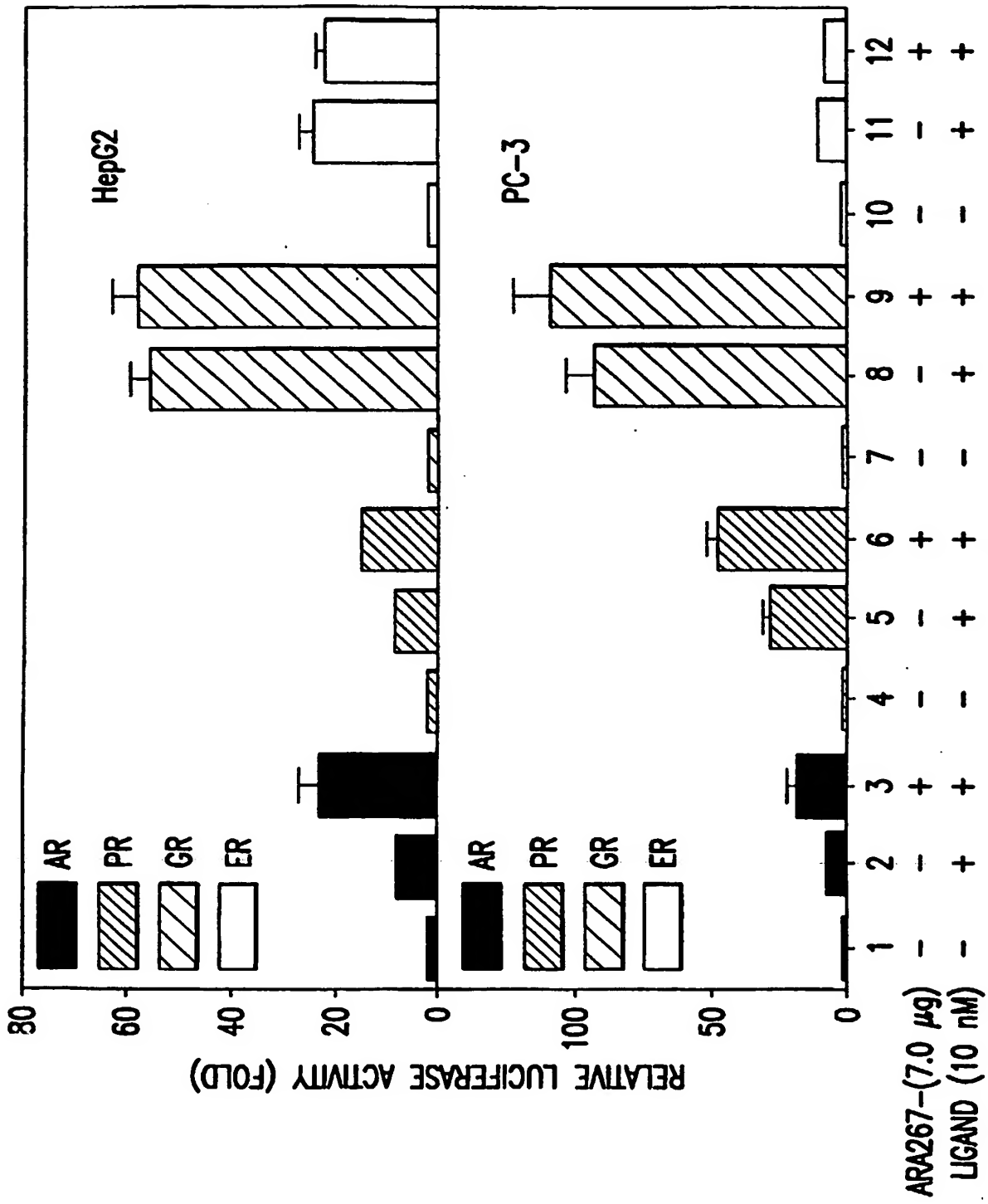

HepG2
PC-3
AR
PR
GR
ER
RELATIVE LUCIFERASE ACTIVITY (FOLD)
80
60
40
20
0
100
50
0
1 2 3 4 5 6 7 8 9 10 11 12
ARA267-(7.0 μg) - - + - - + - + + - - +
LIGAND (10 nM) - + + - - + - + + - + +

FIG.21

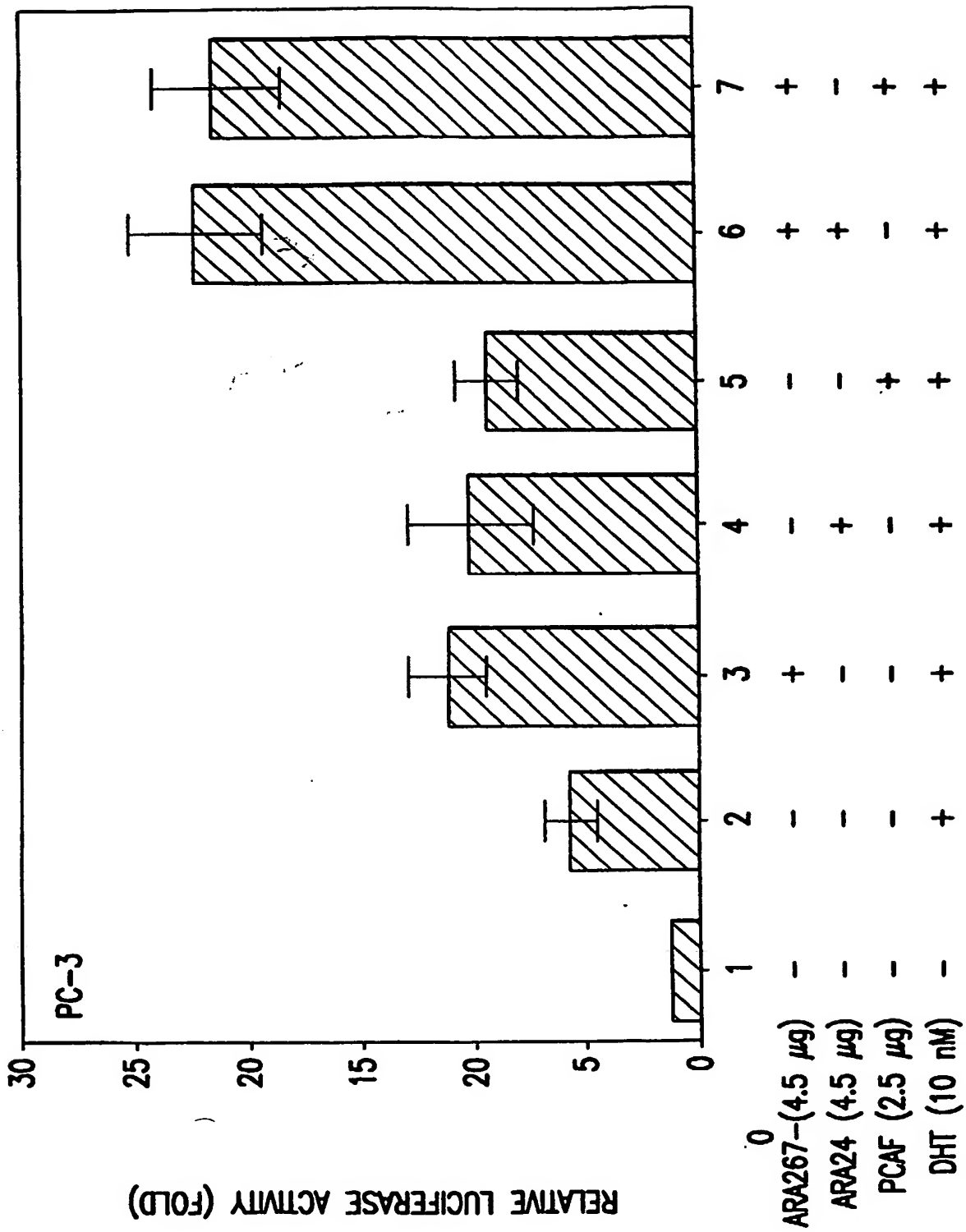

PC-3
RELATIVE LUCIFERASE ACTIVITY (FOLD)
0
5
20
15
25
30
1 2 3 4 5 6 7
ARA267–(4.5 μg) - - + - - + +
ARA24 (4.5 μg) - - - + - + +
PCAF (2.5 μg) - - - - + + +
DHT (10 nM) - + + + + + +

FIG.22

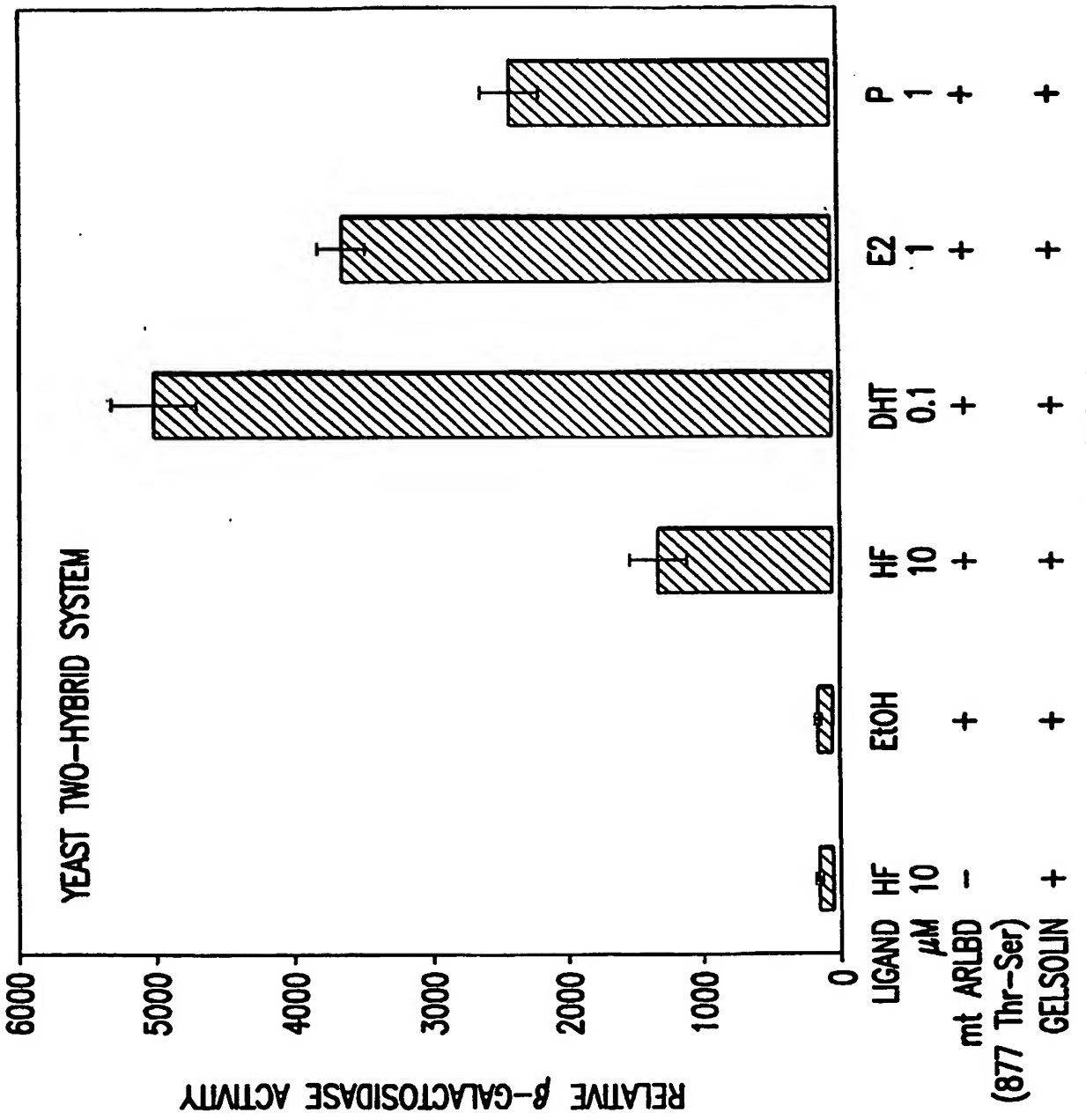

YEAST TWO-HYBRID SYSTEM
RELATIVE β-GALACTOSIDASE ACTIVITY
6000
5000
4000
3000
2000
1000
0
LIGAND
HF μM 10
mt ARLBD (877 Thr-Ser)
GELSOLIN
EtOH
HF 10
DHT 0.1
E2 1
P 1

FIG.23A

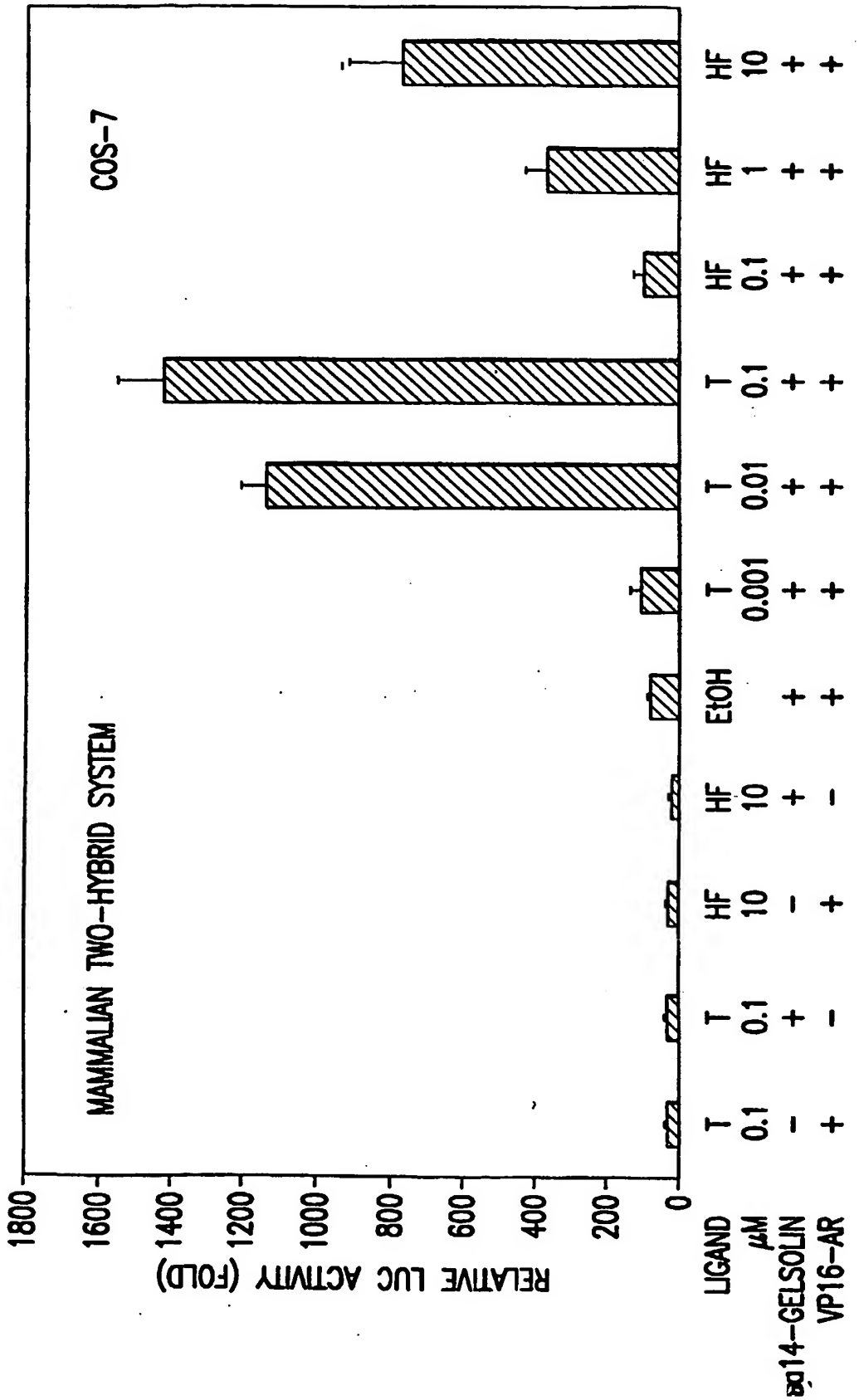

MAMMALIAN TWO-HYBRID SYSTEM
COS-7
RELATIVE LUC ACTIVITY (FOLD)
1800
1600
1400
1200
1000
800
600
400
200
0
LIGAND
μM
pa14-GELSOLIN
VP16-AR
T 0.1 - +
T 0.1 + -
HF 10 - +
HF 10 + -
EtOH + +
T 0.001 + +
T 0.01 + +
T 0.1 + +
HF 0.1 + +
HF 1 + +
HF 10 + +

FIG.23B

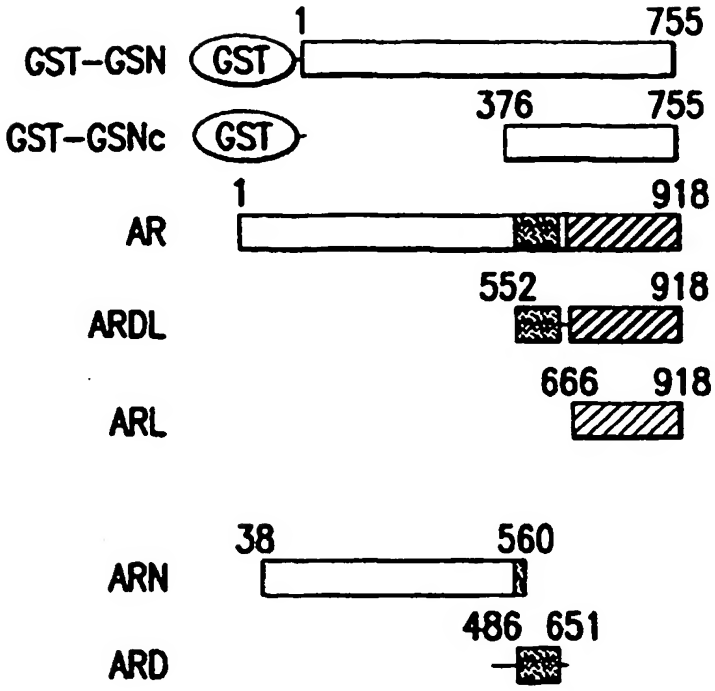
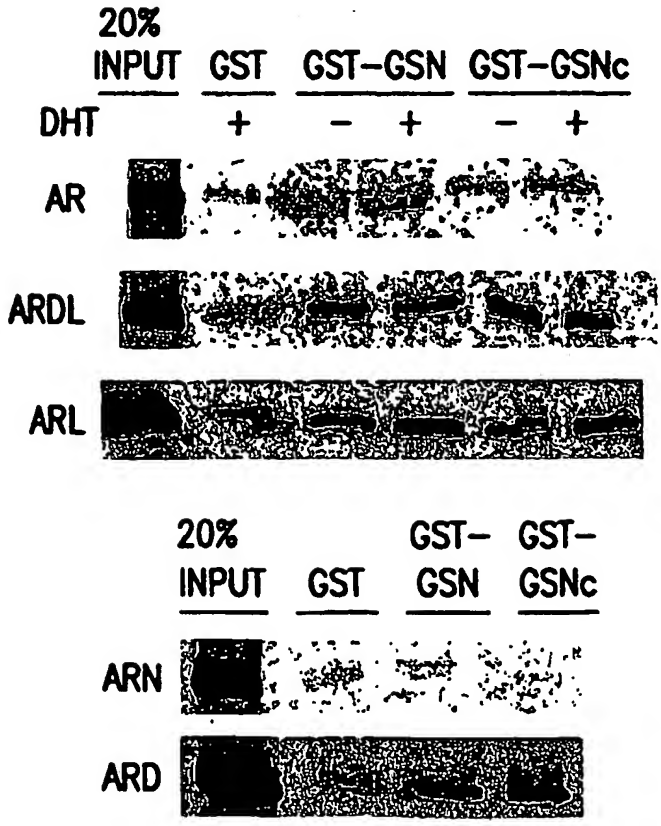

GST-GSN
GST
1
755
GST-GSNc
GST
376
755
AR
1
918
ARDL
552
918
ARL
666
918
ARN
38
560
ARD
486
651

FIG.24A


20% INPUT
GST
GST-GSN
GST-GSNc
DHT
+
−
+
−
+
AR
ARDL
ARL
20% INPUT
GST
GST-GSN
GST-GSNc
ARN
ARD

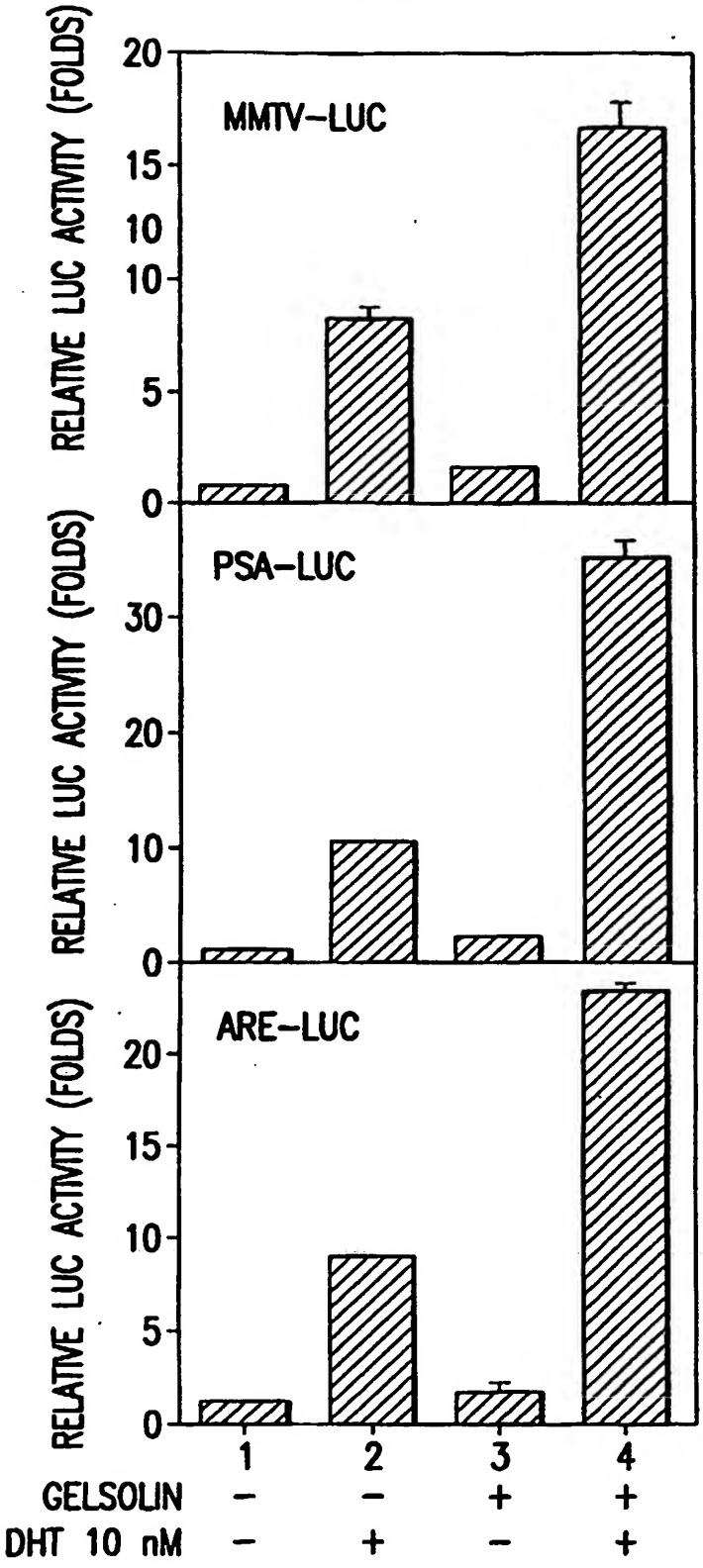

RELATIVE LUC ACTIVITY (FOLDS)
MMTV-LUC
20
15
10
10
5
0
RELATIVE LUC ACTIVITY (FOLDS)
PSA-LUC
30
20
10
0
RELATIVE LUC ACTIVITY (FOLDS)
ARE-LUC
20
15
10
5
0
1 2 3 4
GELSOLIN - - + +
DHT 10 nM - + - +

FIG.25

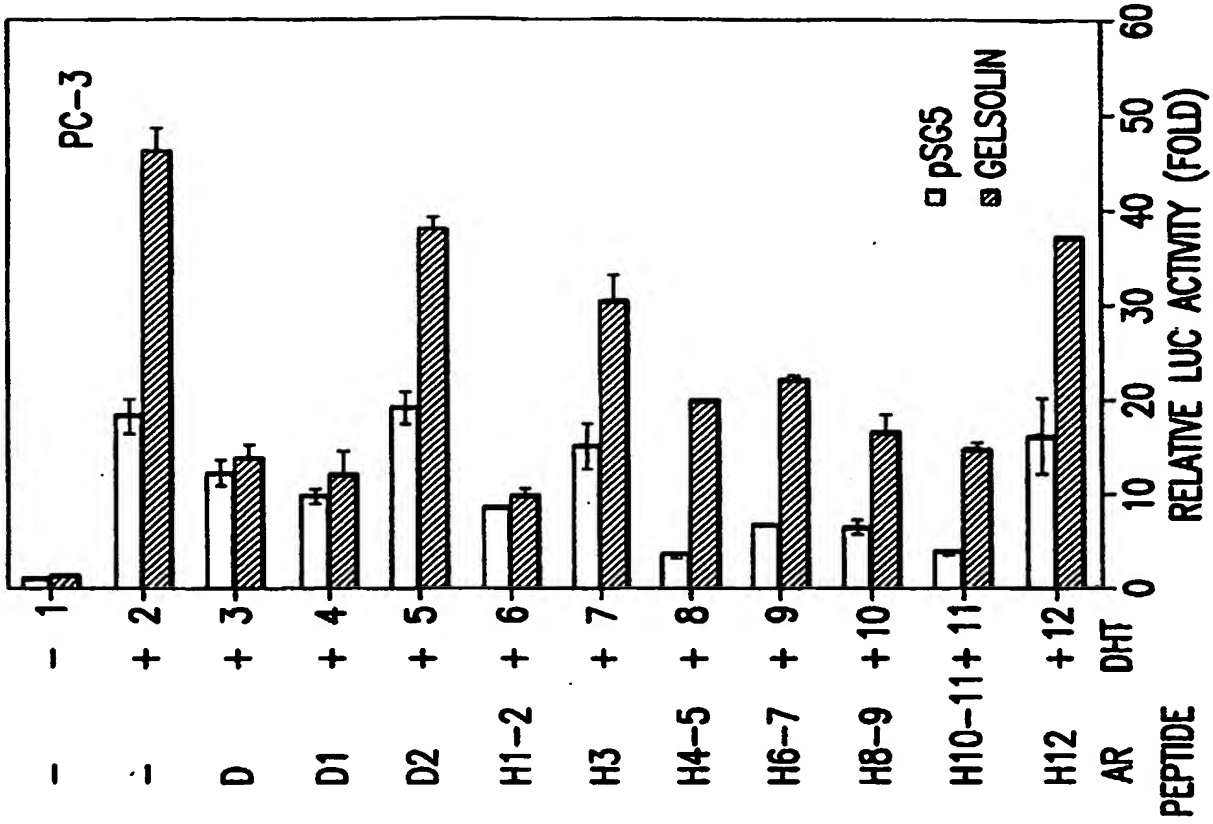


FIG.26B

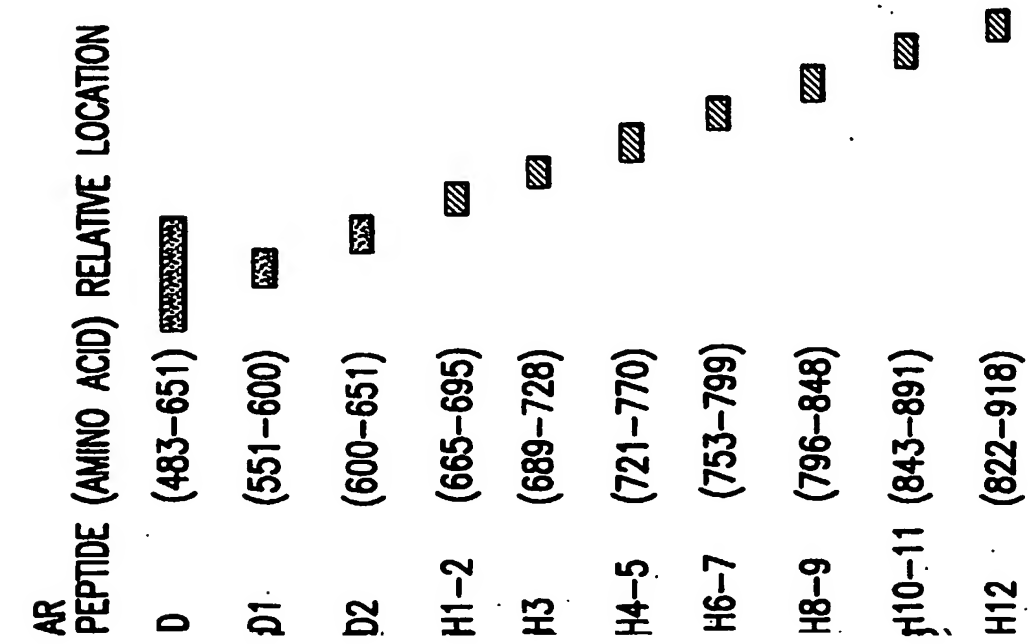


FIG.26A

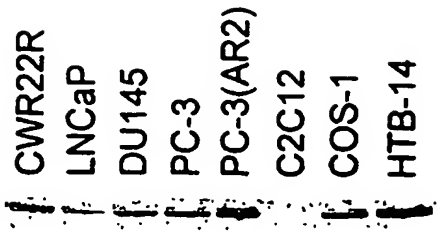


FIG.27A

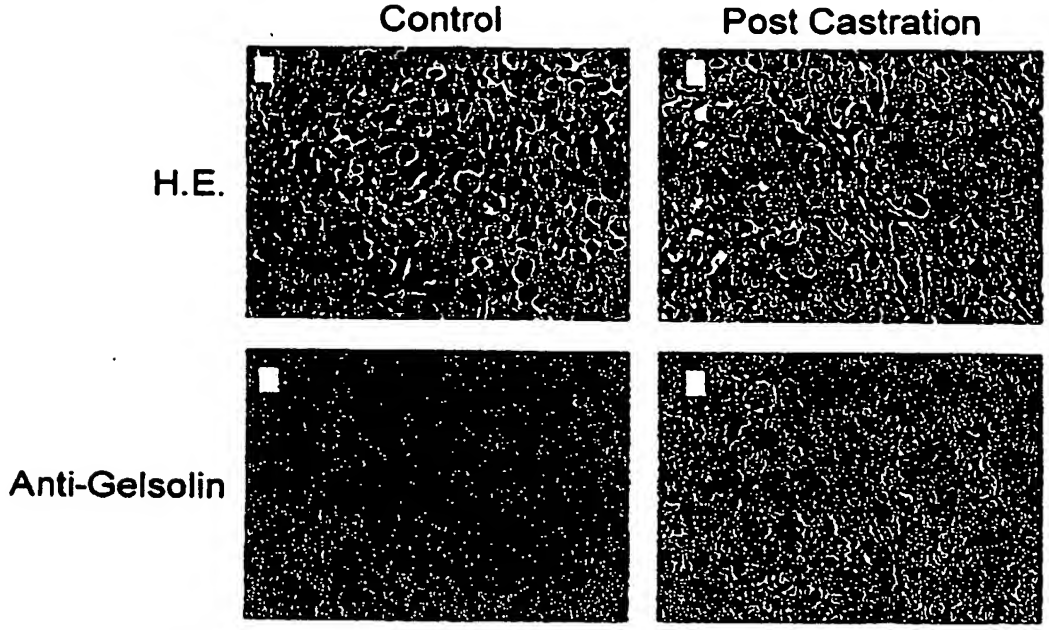
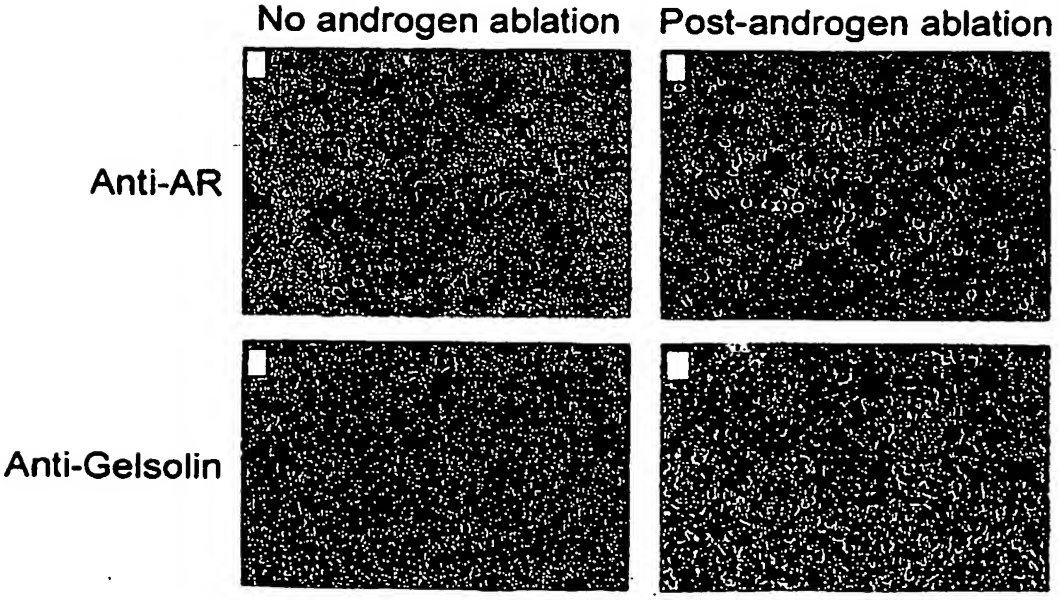


FIG.27B



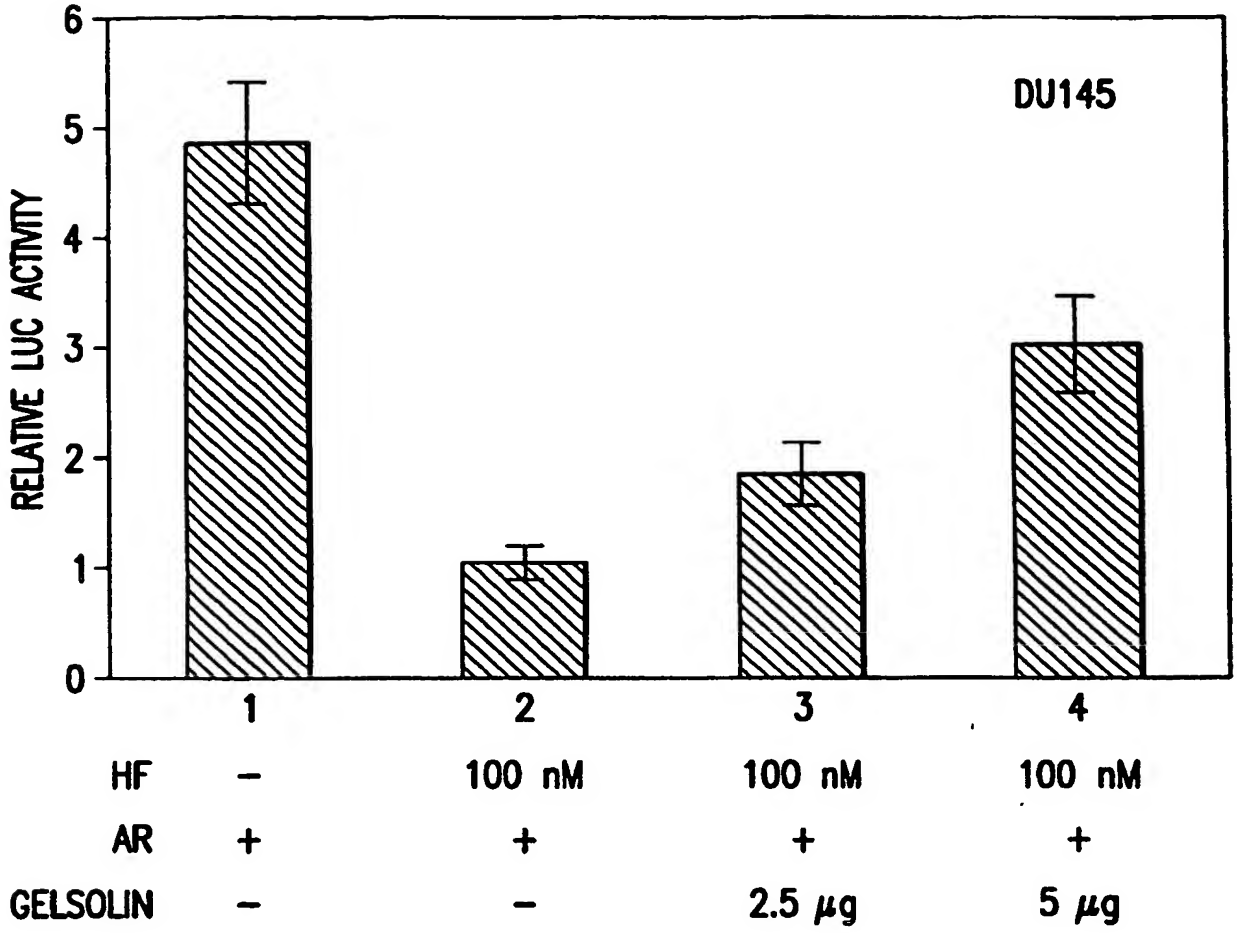

DU145
RELATIVE LUC ACTIVITY
0
1
2
3
4
5
6
1
2
3
4
HF
–
100 nM
100 nM
100 nM
AR
+
+
+
+
GELSOLIN
–
–
2.5 μg
5 μg

FIG.28

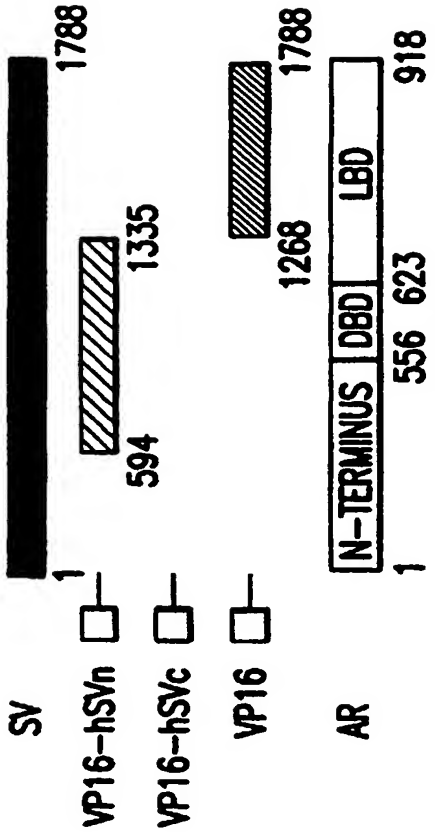


FIG.29B

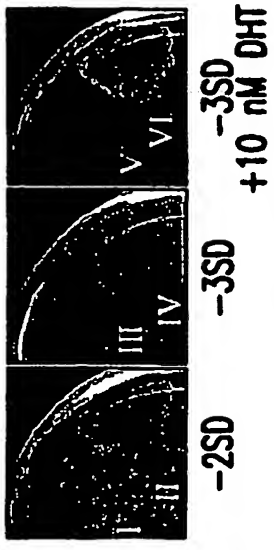


FIG.29A

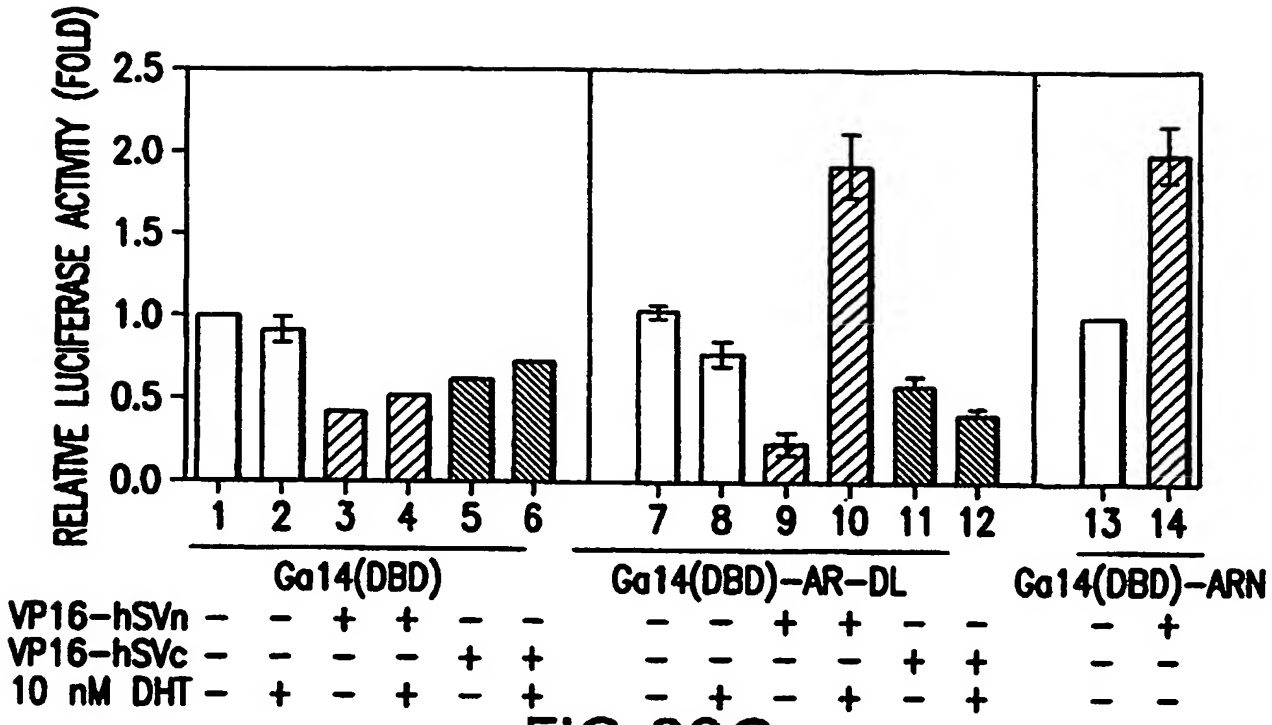


FIG.29C

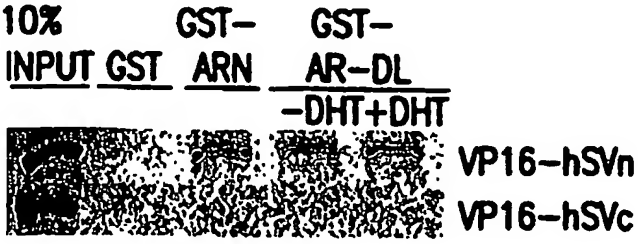


FIG.29D

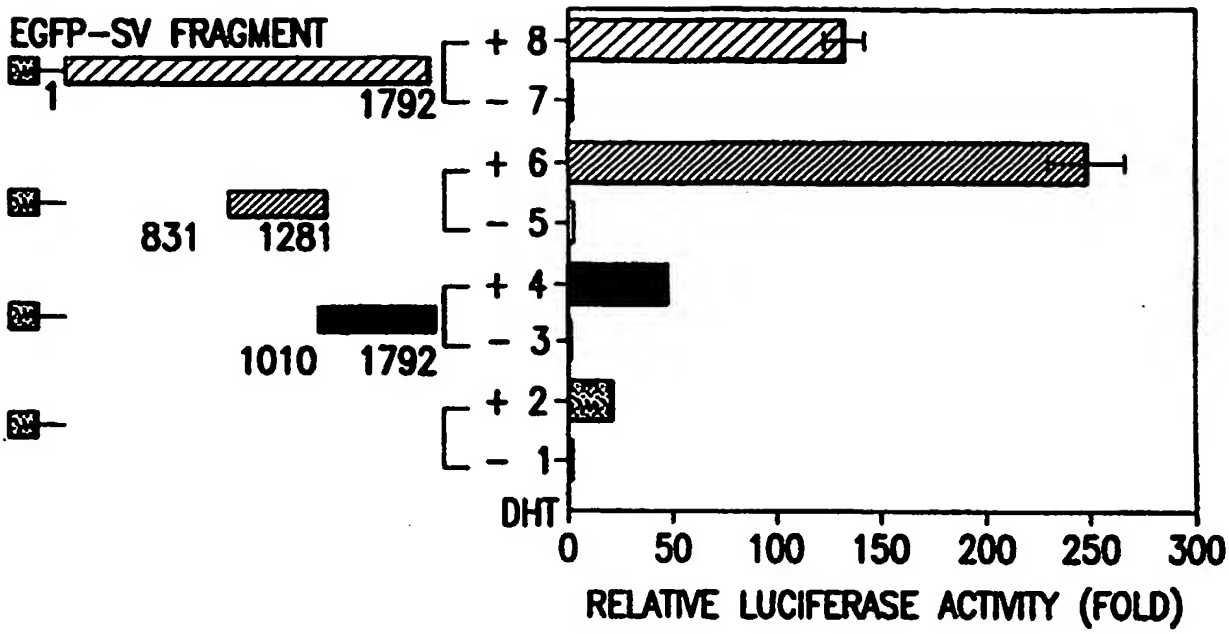


FIG.30A

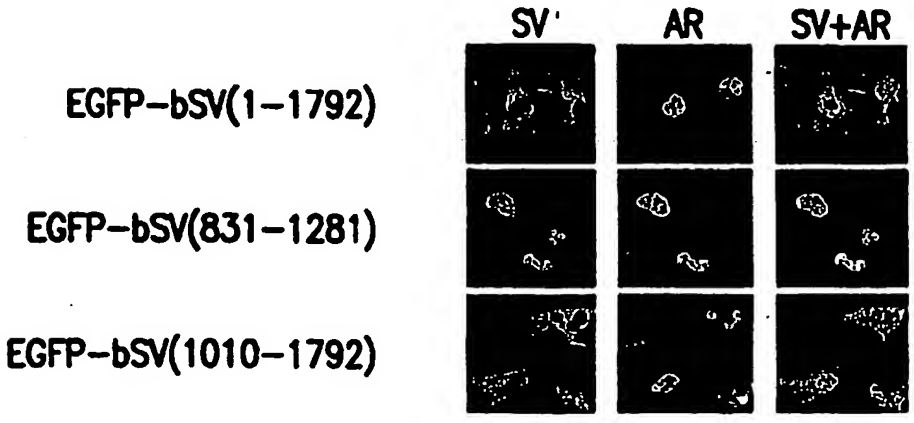


FIG.30B

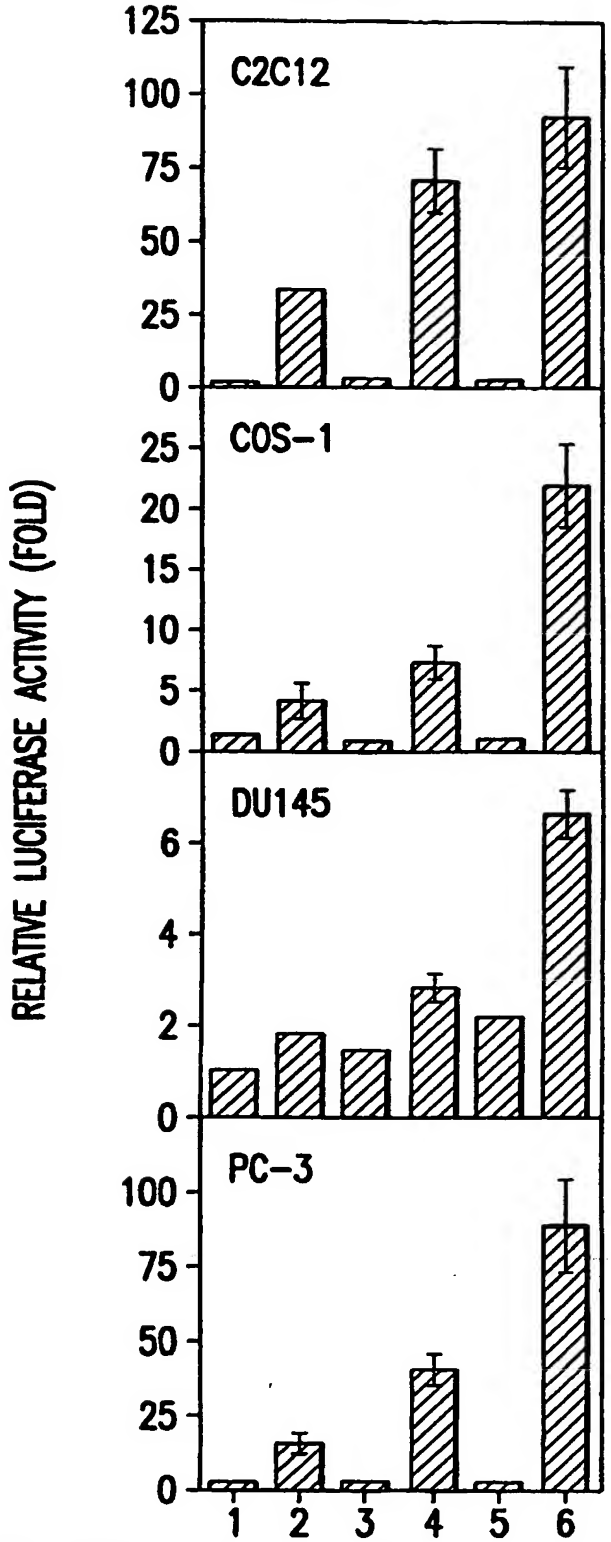

C2C12
COS-1
DU145
PC-3
RELATIVE LUCIFERASE ACTIVITY (FOLD)
125
100
75
50
25
0
25
20
15
10
5
0
6
4
2
0
100
75
50
25
0
1 2 3 4 5 6
pSG5-bSV (μg) 0 0 0.75 0.75 1.5 1.5
DHT 10 nM - + - + - +

FIG.31A

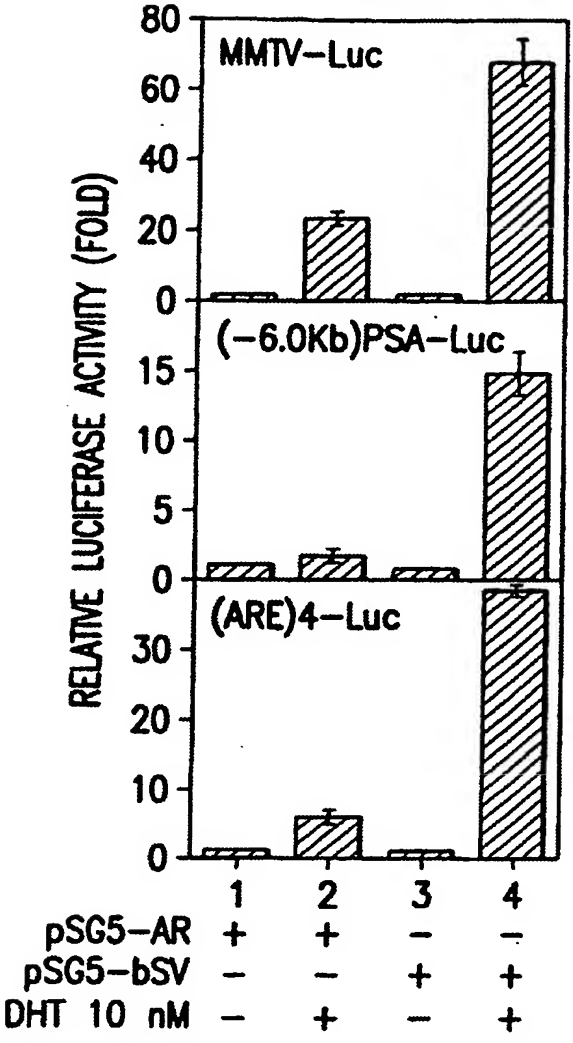
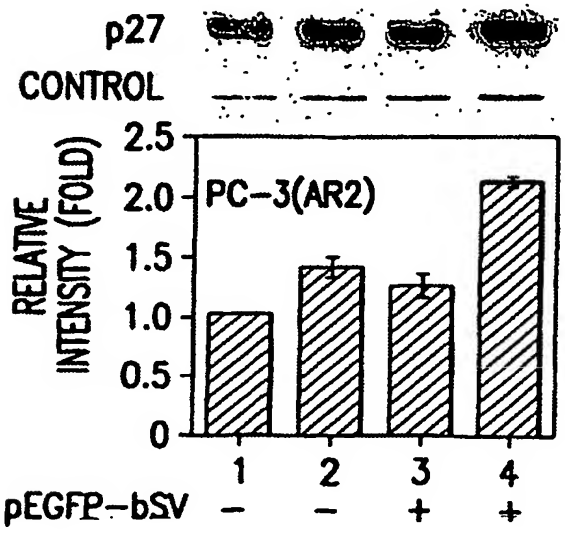

MMTV-Luc
(-6.0Kb)PSA-Luc
(ARE)4-Luc
RELATIVE LUCIFERASE ACTIVITY (FOLD)
80
60
40
20
0
15
10
5
30
1 2 3 4
pSG5-AR + + - -
pSG5-bSV - - + +
DHT 10 nM - + - +

FIG.31B


p27
CONTROL
PC-3(AR2)
RELATIVE INTENSITY (FOLD)
2.5
2.0
1.5
1.0
0.5
0
1 2 3 4
pEGFP-bSV - - + +

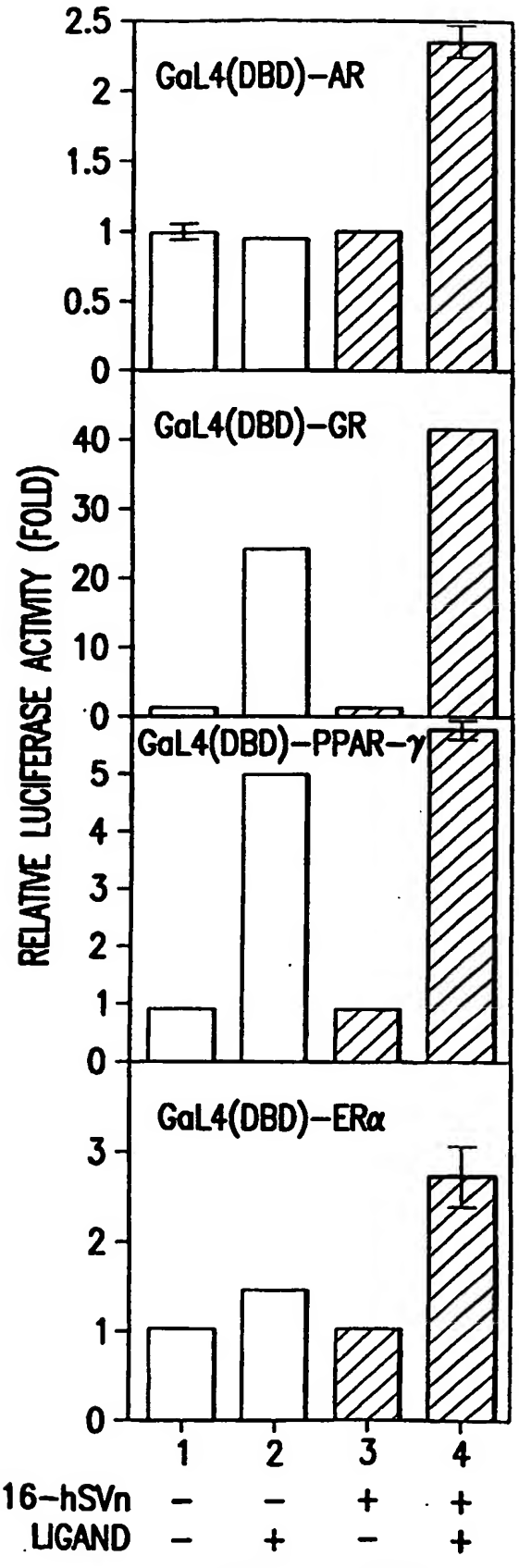


FIG 32A

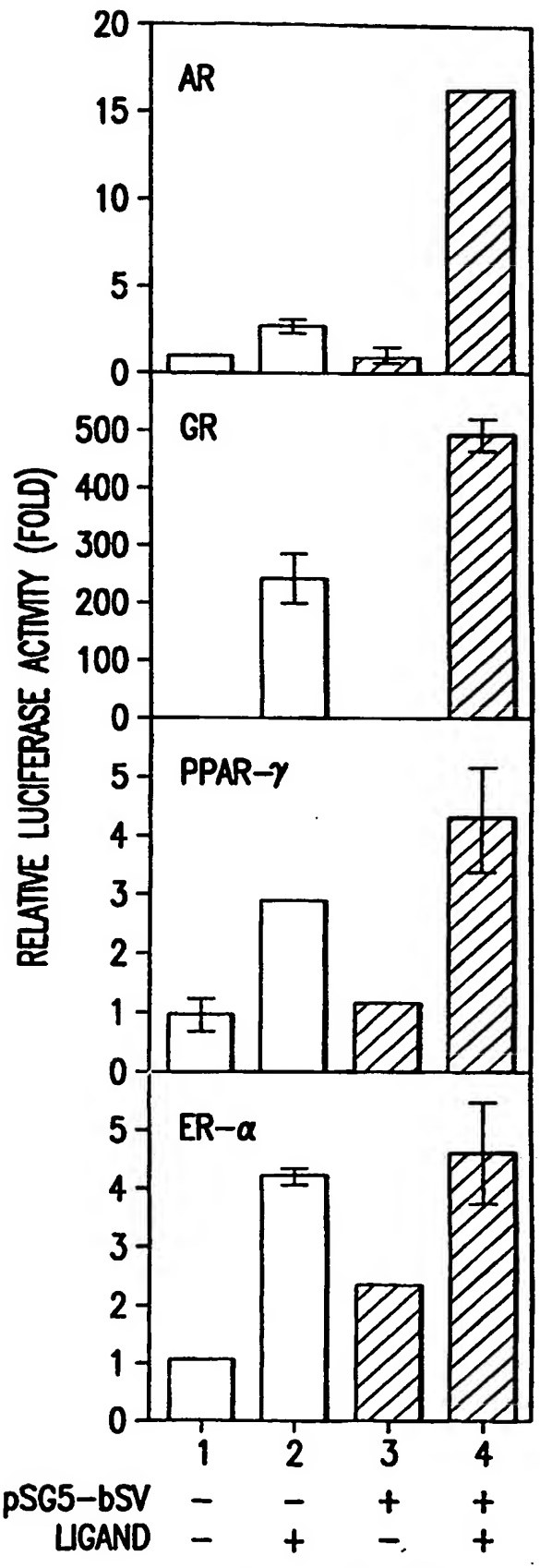


FIG 32B

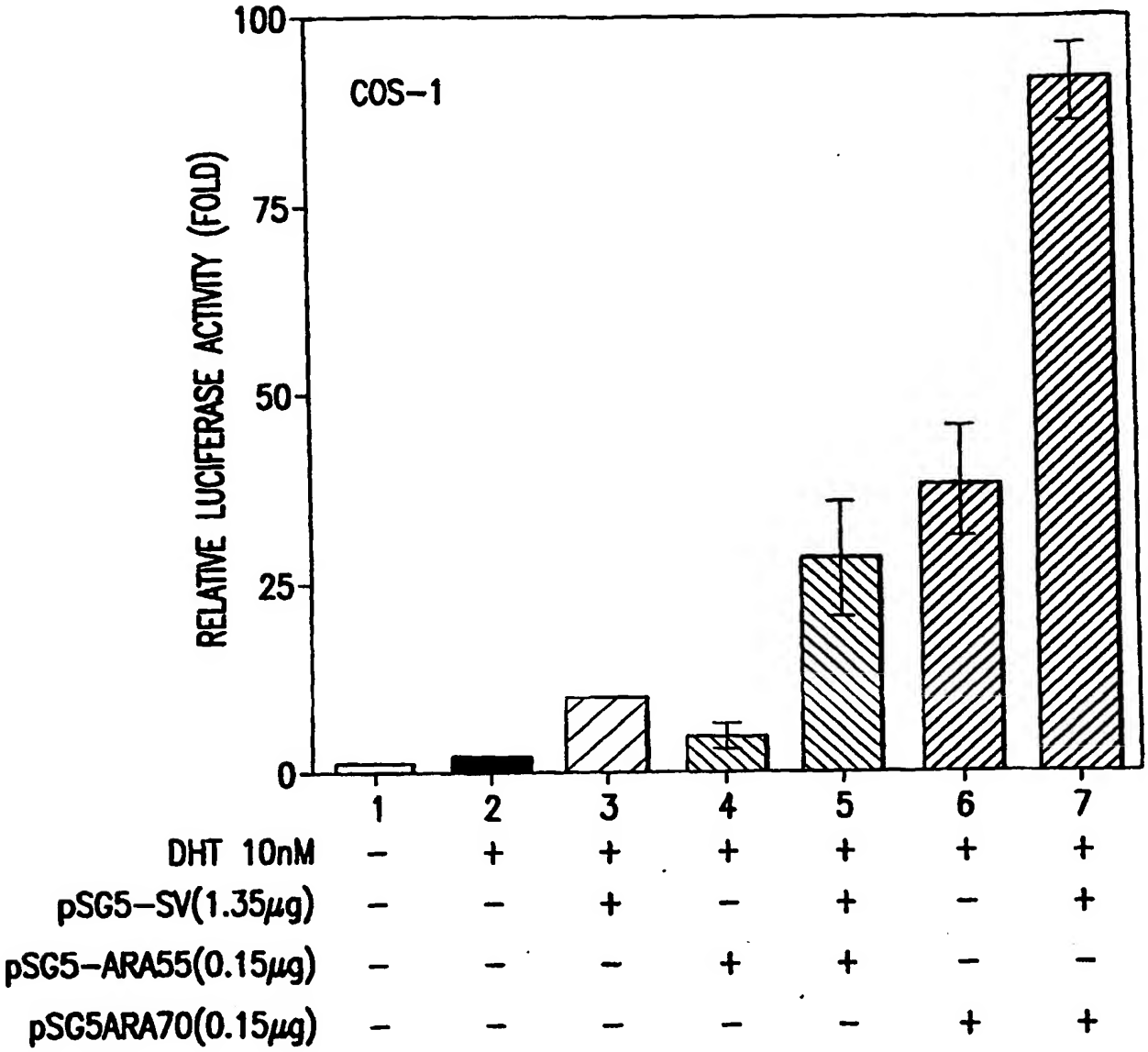

COS-1
RELATIVE LUCIFERASE ACTIVITY (FOLD)
100
75
50
25
0
1 2 3 4 5 6 7
DHT 10nM – + + + + + +
pSG5–SV(1.35μg) – – + – + – +
pSG5–ARA55(0.15μg) – – – + + – –
pSG5ARA70(0.15μg) – – – – – + +

FIG.33A

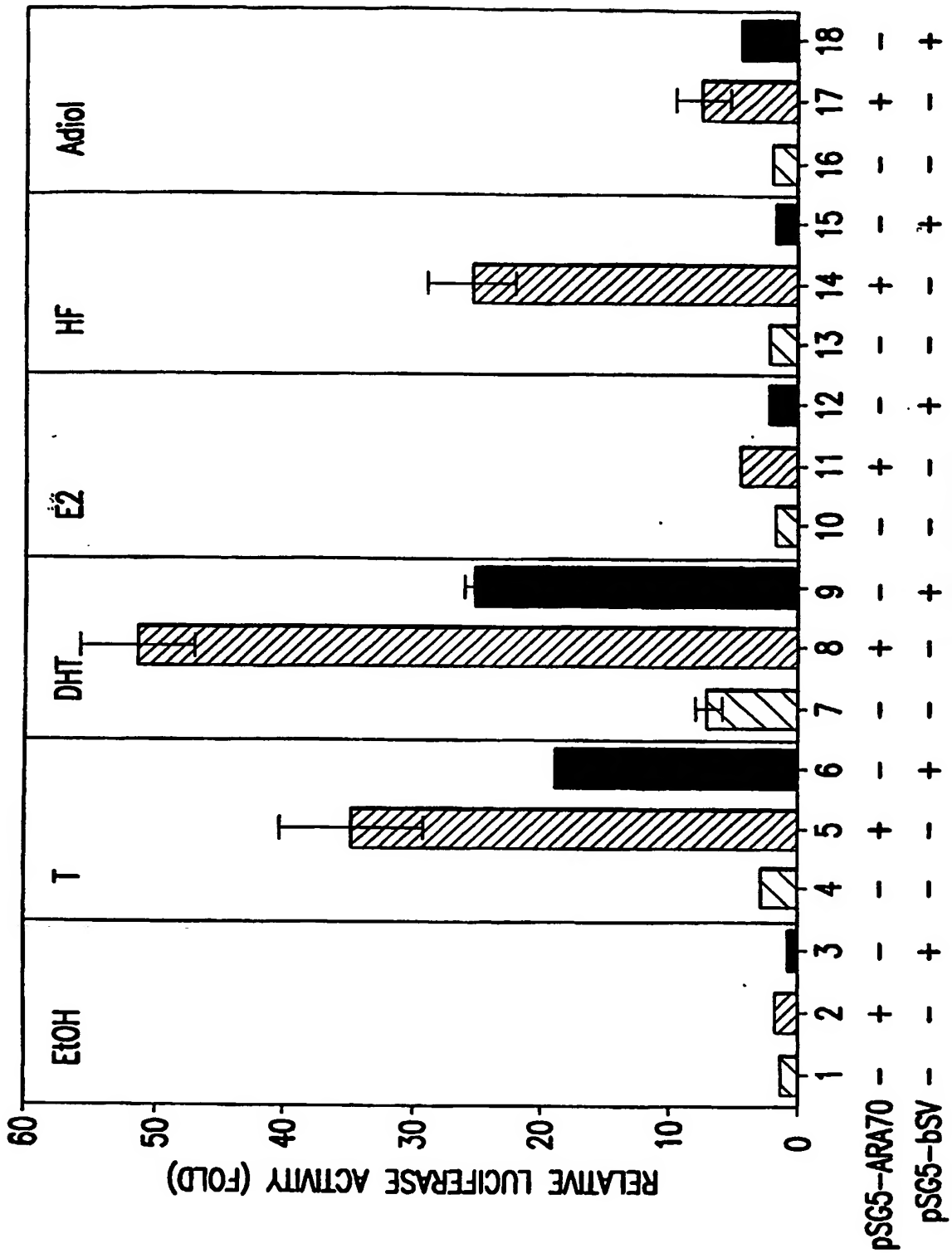

RELATIVE LUCIFERASE ACTIVITY (FOLD)
0
10
20
30
40
50
60
EtOH
T
DHT
E2
HF
Adiol
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
pSG5-ARA70 - + - - + - - + - - + - - + - - + -
pSG5-bSV - - + - - + - - + - - + - - + - - +

FIG.33B

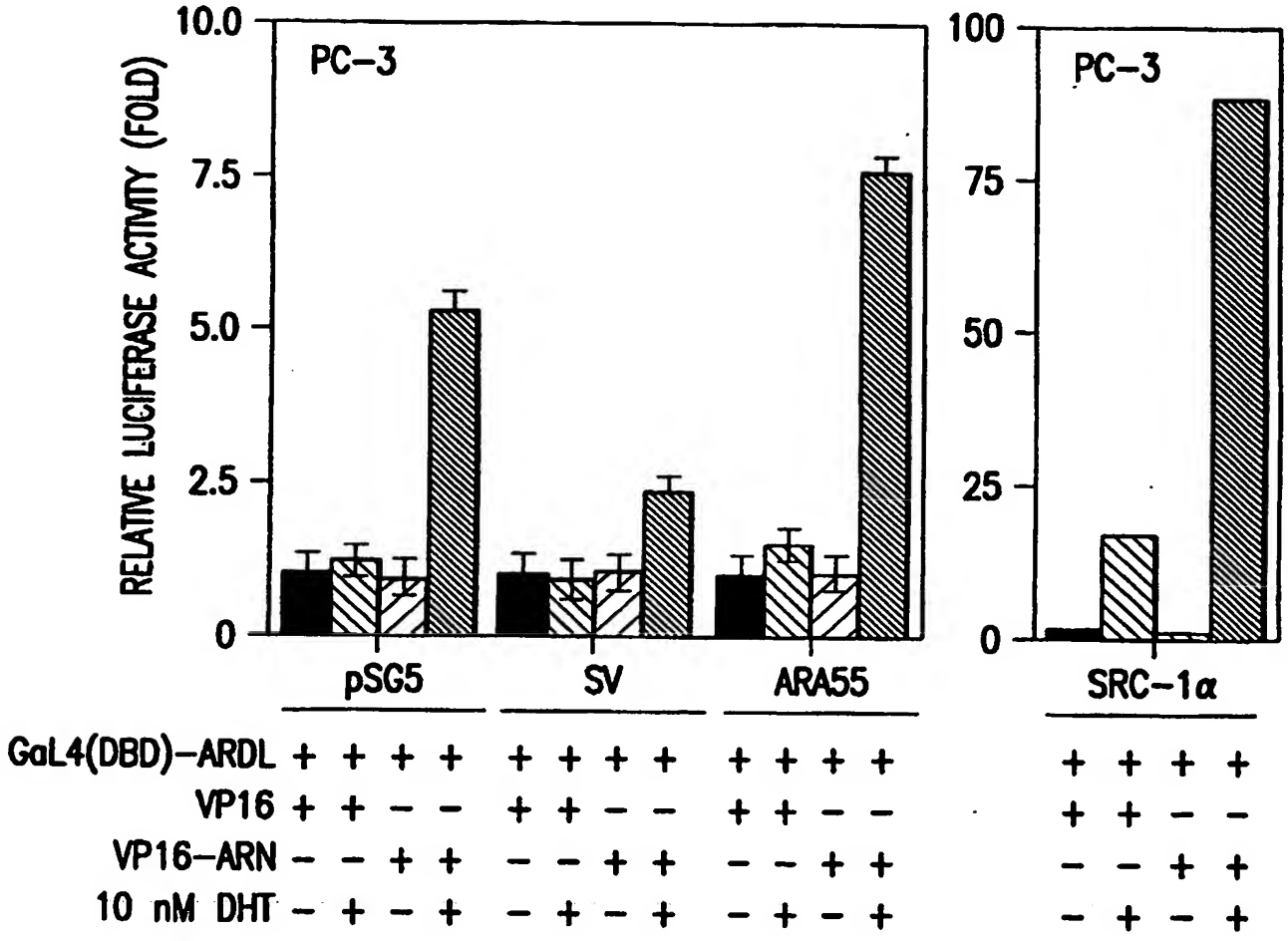

RELATIVE LUCIFERASE ACTIVITY (FOLD)
10.0
7.5
5.0
2.5
0
PC-3
100
75
50
25
0
PC-3
pSG5
SV
ARA55
SRC-1α
GaL4(DBD)-ARDL + + + + + + + + + + + + + + + +
VP16 + + - - + + - - + + - - + + - -
VP16-ARN - - + + - - + + - - + + - - + +
10 nM DHT - + - + - + - + - + - + - + - +

FIG.34